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Understanding changes to food environments and diet through trade liberalisation: a study at three scales

Bárbara Emilia Rubiell Cifuentes

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Abstract

Although obesity has been commonly considered an individual problem (including unhealthy behaviours and genetic component), the steep rise of overweight and obesity prevalence in the last three decades holds a strong association with changes in food consumption. The causes of these rapid shifts are related to different processes of globalisation that have shaped food consumption. Several studies have identified trade liberalisation as a significant driver of the rise of obesity. This thesis offers new insights into the associations between trade and investment barriers, food supply chains and health by analysing three geographical scales.

The first scale includes a longitudinal assessment of the link between food supply chains and BMI for 145 countries from 1991 to 2013. This scale involved two approaches: the construction of the Food Liberalisation Index (FLix); merging three proxy variables that exemplified food processing, food trade and FDI in the food industry. The relationship between FLix and BMI changes (from 1991 o 2013) was tested through panel regression. The results showed that changes in BMI are positively and significantly associated with FLIx, evidencing the strong association between the opening of trade barriers and BMI increase. Moreover, on a global scale, the group trajectory analysis (from 1991 to 2013) of the three aforementioned processes was carried out. The results from this exploration showed that LMICs have undergone the most acute changes in their food supply chains since the opening of trade barriers.

The impact of trade liberalisation was assessed at a local scale by testing the relationship between food-outlet density and deprivation in Mexico City. First, a longitudinal approach explored changes in supermarket density and deprivation

from 1990 to 2015, suggesting that the simplest type of supermarket (i.e. bodega) has increased the most in more deprived areas. second, a cross-sectional approach included an exploration of densities of street markets, marketplaces and convenience stores in 2015.

The link between food outlet density and household food expenditure was explored. Findings showed that households located in areas with higher densities of supermarkets and convenience stores had higher expenditures on ultra-processed foods. In contrast, households located in areas with high densities of street markets had higher expenses for fresh food.

Finally, the thesis included a qualitative exploration individual motivations for selecting a food outlet through a series of go-along interviews. The interviews were comprised of residents of four areas with different levels of deprivation and took place while participants did their food shopping. The analysis of the participants' accounts suggested that motivations for selecting a food outlet depended mostly on cost, quality and convenience.

Overall this thesis has contributed to the study of commercial determinants of health by demonstrating the impact of TNCs on the food supply chain at three different scales, and its influence in health and diet. Furthermore, this research provides relevant evidence of the effects of local-food environments in the diet of Mexico City.

Lay Summary

Obesity has been commonly considered an individual condition caused by "unhealthy" lifestyles – characterised by sedentary behaviours and excessive food intake. However, the rapid global rise of obesity and overweight levels in the last three decades raises attention to possible global drivers. One of the leading international changes in the previous three decades has been globalisation, which had allowed the free trade of goods and services.

Globalisation granted access to transnational food companies into various low and middle-income countries (LMICs), which changed how food is produced, processed and sold. Such changes resulted in increased availability of highly caloric foods, impacting the diet of the population.

This thesis explores changes in the ways that food is produced, processed and sold at three geographic scales: global, city and household. The first scale is an international exploration in which countries are ranked according to the impact of globalisation in processed food availability from 1991 to 2013. Moreover, this ranking was compared to changes in obesity and overweight levels during the same period. The results showed that LMICs had steepest changes in processed food availability. The findings also showed that obesity and overweight levels have increased for all countries, particularly for LMICs.

The second scale explored supermarket expansion in Mexico City from 1990 to 2015 as a part of the expansion of transnational Food retailers in LMICs. The results evidenced that the simplest kind of supermarket (offering low-quality processed food) had increased the most in the most deprived areas.

At the same geographic scale, the distribution of convenience stores, street markets and marketplaces was also measured and compared with deprivation. The analysis showed that convenience stores were mainly concentrated in more affluent areas, while street markets and marketplaces were located in areas from all deprivation levels.

The third scale explored how household food budgets varied according to food outlet density. The analysis showed that households located in areas with higher densities of supermarkets and convenience stores had higher expenditures on ultra-processed foods. In contrast, households located in areas with high densities of street markets had higher expenses for fresh food.

The household-scale also included a qualitative analysis of personal reasons for choosing food outlets in Mexico City. For this purpose 32 interviews were carried out while people did their everyday food shopping. The interviews revealed that most of the people base their shopping decisions on the quality and price of the food as well as in the closeness to the food outlets.

In summary, this thesis explores the impact of macro-economic processes at three scales. Moreover, it contributes to the study of commercial determinants on health by understanding the impact of neoliberal economic policies in the food supply chain.

In loving memory of Francesco Roscino

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Glossary

AGEB	Geo-statistic basic area. Smallest spatial units of analysis for urban areas in Mexico. They comprise a group of clearly delimited blocks with homogenous land use.
ANTAD	Mexican Association of Self-Service and Department Stores.
AoA	Agreement on Agriculture. An international treaty of the World Trade Organization that contains provisions in 3 broad areas of agriculture and trade policy : market access, domestic support and export subsidies.
BMI	Body Mass Index. The body mass divided by the square of the body height.
DENUE	Mexican Directory of Economic Units. Open access directory that provides data on identification, space and size of economic units across Mexico
ENGASTO	Mexican Expenditure Survey. Survey conducted in 2012 and 2013 that aims to provide information about expenditure behaviours on goods and services.
FAO	Food and Agriculture Organisation. A specialised agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security.
FDI	Foreign Direct Investment. Investment made by a firm or individual in one country into business interests located in another country.
FLix	Food Liberalisation Index. Composite indicator with the aim of assessing the impact of trade and investment liberalisation in food systems from 1991 to 2013.
GATT	General Agreement on Trade ands Tariffs. A legal agreement between many countries, signed in 1947, whose purpose was to promote international trade by reducing or eliminating trade barriers.
GDP	Gross Domestic Product. The monetary value of all finished goods and services made within a country during a specific period. GDP provides an economic snapshot of a country, used to estimate the size of an economy and growth rate
HFCS	High Fructose Corn Syrup. A sweetener made from corn starch. is among the sweeteners that mostly replaced sucrose (table sugar) in the food industry.
HIC	High Income Country. Country with a Gross National per capita Income exceeding $USD 12,056.

INEGI	Mexican Institute of Statistics and Geography. An autonomous agency of the Mexican Government dedicated to coordinate the National System of Statistical and Geographical Information of the country.
KDE	Kernel Density Estimation. A statistical process of finding an estimate probability density function of a random variable. It estimates it by plotting out the data and beginning to create a curve of the distribution. The curve is calculated by weighing the distance of all the points in each specific location along the distribution.
LMIC	Low and Middle Income Country. Country with a Gross National per capita Income between $USD 1,026 and $USD 3,995.
NAFTA	North American Free Trade Agreement. Treaty between Canada, Mexico, and the United States.Through NAFTA, the three signatories agree to remove trade barriers between them. By eliminating tariffs, NAFTA increases investment opportunities.
NCD	Non Communicable Disease. A disease that is not transmissible directly from one person to another.
SEDECO	Mexican Ministry of Economic Development. Mexican agency responsible of defining and coordinating economic policy in Mexico City.
TNC	Transnational Company. An enterprise that is involved with the international production of goods or services, foreign investments, or income and asset management in more than one country.
TNFC	Transnational Food Company
WHO	World Health Organisation. A specialised agency of the United Nations responsible for international public health.
World Bank	An international financial institution that provides loans and grants to the governments of poorer countries for the purpose of pursuing capital projects.
WTO	World Trade Organisation. An intergovernmental organisation that is concerned with the regulation of international trade between nations

1.Introduction

1.1 Social determinants of health

Over the last three decades, a growing number of studies has aimed to explain the causes of health variations and inequalities between places and populations (Curtis 2004; Gatrell 2002; Marmot et al. 2012; Marmot and Wilkinson 2005). The overall body of research suggests that health inequalities are influenced by different elements, including individual characteristics as well as social, environmental and structural factors (Marmot and Wilkinson 2005).

The term social determinants of health has been used to explain how the circumstances under which people are born, age, live and work can shape health outcomes (Marmot and Wilkinson 2005; WHO 2013). Although the term was coined since the 1980s, it was not until the late 1990s that it gained academic interest. The growing success of the term derived from the publication of *The Solid Facts* (1998) by Marmot and Wilkinson, in which the authors stated that material and social inequalities lead to poor health amongst individuals. Wilkinson and Marmot classified such inequalities into ten groups: social gradient, stress, social exclusion, childhood, work, unemployment, social support, addictions, food, and transport.

The interest in the study of social determinants of health led to the creation of the WHO Commission on Social Determinants of Health in 2005. After three years of intensive work between policymakers, researchers and organisations this initiative concluded that social determinants of health were formed by nine main areas. These nine areas were: employment conditions, social exclusion, priority public health conditions, women and gender equity, early childhood development,

globalisation, health systems, measurement and evidence, and urbanisation (WHO 2013).

Social determinants of health have been commonly used as a conceptual framework to understand the structural causes of the health divide at different scales (Wilkinson and Marmott 2005). For this study, the inclusion of globalisation as part of the social determinants of health enables us to understand the environmental and structural determinants of obesity. The next two sections explain how environmental and economic determinants can influence obesity.

1.2. Environmental determinants of obesity

According to the 2018 Global Nutrition Report, worldwide, over 2.01 billion adults are overweight, of which 678 million are obese (Development Initiatives 2018). Overweight and obesity prevalence represents a significant risk factor for three of the four leading non-communicable diseases (NCDs), including certain types of cancer, diabetes and cardiovascular disease (Swinburn et al. 2019). As a result, in 2008, the World Health Organisation (WHO) recognised obesity as a global epidemic, and its reduction forms part of the 2025 Global Nutrition Goals (WHO 2008; Development Initiatives 2018).

A global increase in obesity levels has taken place since the second half of the twentieth century. For high-income countries (HICs) such as the United States and the United Kingdom, obesity levels rose slowly for more than four decades (Pearce and Witten 2010). In low and middle-income countries (LMICs) like India and China, obesity levels have increased at precipitous rates since the late 1980s, reaching similar levels to those of HICs by the mid-2000s (Swinburn et al. 2019). Furthermore, the prevalence of overweight and obese individuals is not evenly

distributed across social and ethnic groups, since in many countries, higher rates of obesity can be found among socially disadvantaged groups (Rydin et al. 2012). For example, in the United States, African-American and Latin-American communities have the highest obesity levels within the overall population (Hales et al. 2018).

Although obesity has been commonly explained as an energy imbalance between energy intake and energy expenditure, this reasoning becomes simplistic when considering the global increase of obesity. The global rise in obesity levels is a result of a series of profound structural changes that have contributed to environmental changes. Such changes have resulted in the emergence of places that support sedentary behaviours and increased food consumption, also known as "obesogenic" environments.

In the last two decades, numerous empirical studies have explored the environmental determinants of obesity (Pearce and Witten 2010; Caspi et al. 2012; Swinburn et al. 2019). The overall literature on the subject has been carried out at different geographical scales (viz. global, national, neighbourhood) and has focused on either energy expenditure or energy consumption. Although both pathways have contributed to the increase in obesity levels worldwide, food consumption patterns have undergone the most changes in recent decades compared to physical activity. Therefore, the drivers of changes in food consumption patterns must be understood to explain obesity as an epidemic (Thow 2009; Nestle 2013, De Vogli et al. 2014b).

1.3. Trade liberalisation and the nutrition transition

The shift in dietary patterns from traditional diets (based on fresh produce) to "westernised" diets, characterised by the consumption of vegetable oils, meat, dairy and processed foods has been explained by Popkin (1998) as the nutrition

transition. This concept also suggests that economic development is a significant driver of shifting diets. However, economic growth (by itself) fails to explain the rapid increase in obesity and overweight levels in LMICs.

To understand the sharp increase in LMICs, recent attention has focused on the role of trade and investment liberalisation as accelerators of the nutrition transition. The adoption of a free-market economic model and the consequential opening of trade and investment barriers accentuated the link between trade and poor dietary patterns. This link is particularly visible with the global expansion of transnational food companies since the 1980s (Hawkes 2010). The impact of their presence and development in food consumption is supported by a large body of literature indicating an increase in the consumption of energy-dense foods with a high content of sweeteners, refined carbohydrates and vegetable oils (Popkin 1998; Chopra 2002; Thow 2009; Hawkes 2010).

According to the overall body of literature on trade liberalisation and diet, the opening of trade barriers contributed to the adoption of westernised dietary patterns through three main processes: 1) an increase in imports and exports through the reduction of trade barriers; 2) an intensification of foreign direct investment (FDI) in food processing and food retailing; and 3) an augmentation in the production of ultra-processed foods (Hawkes et al. 2009; Blouin et al. 2009; Thow and Hawkes 2009; Friel et al. 2013a; Friel et al. 2013b; Swinburn et al. 2008).

This thesis focuses on the impact of trade and investment liberalisation in the Mexican food supply, which began since the implementation of the North American Free Trade Agreement (NAFTA). As a result of changes in the Mexican food supply chain, Mexico has the second-highest prevalence of obesity and overweight in women and children internationally (WHO 2019).

1.4. Aims and objectives

This thesis offers new insights into the associations between trade and investment barriers, food supply chains and health. This investigation is based on three scales. The first scale concerns a longitudinal assessment of the link between food supply chains and BMI for 145 countries from 1991 to 2013. The second scale refers to an exploration of changes in food retailing in Mexico City and their associations with deprivation. Finally, the third scale examines the associations between food outlet densities and food expenditure. This thesis addresses the following research questions and objectives:

1. To what extent has trade liberalisation influenced food systems at a global level? (Chapter 3)
    - How can countries be classified according to changes in their food systems derived from trade liberalisation?
    - Do associations exist between changes in the food systems and BMI?

2. To what extent is food outlet density associated with area-level deprivation in Mexico City? (Chapter 4)
    - Do associations vary according to food retailer type?
    - How has supermarket density in Mexico City changed since the opening of trade and investment barriers?
    - To what extent have changes varied according to area-level deprivation?

4. What is the extent of the relationship between outlet density and food expenditures in Mexico City? (Chapter 5)

    - Does outlet density affect fresh food expenditure and ultra-processed food expenditure differently? If so, is this relationship linked to outlet type?

5. To examine individual motivations for choosing a food outlet in Mexico City (Chapter 6)

    - In which ways are motivations associated with individual and social factors?
    - How do social and environmental determinants interact in the selection of traditional and new food retailers?

1.4.Thesis structure

This thesis includes seven chapters. Chapter 2 is a review of the body of evidence concerning the liberalisation of food supply chains using commercial determinants of health as a conceptual framework. Moreover, this chapter provides a brief historical overview of the opening of trade barriers in Mexico, and the implications this had on the food supply chain. Finally, this chapter includes a summary of the different investigations of food environments and health from a geographical perspective.

Chapter 3 examines the global relationship between food supply chains and body mass index (BMI) from 1991 to 2013 through two approaches. This Chapter measures the level of trade liberalisation through the construction of a composite indicator for 145 countries. Furthermore, it groups countries into trajectory groups according to changes in the three processes included in the index (processed food

production, trade of energy-dense foods, and the presence of transnational companies).

Chapter 4 examines the relationship between food-outlet density and deprivation in Mexico City. This Chapter includes an initial cross-sectional analysis of four types of food retailers and deprivation. Then, it provides a longitudinal analysis by exploring associations between supermarket density and deprivation from 1990 to 2015.

Using the food outlet density measures constructed in Chapter 4, Chapter 5 explores the link between food outlet density and household food expenditures. This chapter divides food expenditure into two types: fresh food and ultra-processed foods, and then tests further associations with the number of household members and education level.

Chapter 6 takes a qualitative approach by exploring individual motivations for selecting a food outlet in Mexico City. This chapter analyses the narratives of 32 go-along interviews conducted in areas with different levels of deprivation whilst participants carried out their food shopping. This enables an in-depth exploration of the contextual and individual determinants involved in food shopping practices.

Finally, Chapter 7 discusses the findings from the four empirical chapters, making use of the overall body of scientific literature concerning trade liberalisation, food supply chains, food environments, health and the nutrition transition. This chapter also explores the strengths and limitations of this thesis, as well as further research possibilities in the field. This chapter finishes by summarising the key contributions of this thesis.

2. Background

In February 2018 the World Health Organisation (WHO) Healthy City Network held a meeting of European mayors to set health goals for 2030. Participants agreed that to achieve health and wellbeing at the city level, it is necessary to promote governance, empowerment, and participation. To complete this goal, mayors recognised that health was not only individual responsibility but also a result of social, environmental, cultural, behavioural, political and commercial determinants (WHO 2018).

One of the key messages of the consensus was the importance of promoting community-focused policies, as well as a significant investment in public goods and services. It can be argued that the need to develop public goods and services links to the increasing presence and power of the private sector. The current prevailing economic model has incentivised the spread of transnational corporations (TNCs), enabling significant availability and accessibility of unhealthy commodities such as alcohol, tobacco and ultra-processed food, particularly in low and middle-income countries (LMICs).

This chapter explains the influence of place on health using three different scales. This chapter begins by describing how health outcomes can be affected by corporations, using commercial determinants of health as a conceptual framework. Then, it examines the impact of corporations on food availability by looking at changes in supply chains. This chapter is complemented by an overview of changes in Mexican supply chains to provide a context for the last three empirical chapters. Finally, this chapter examines how local food environments have been studied

through a geographical perspective, as well as their impact on health and dietary patterns.

2.1 Commercial Determinants of Health

As explained in the previous chapter, the adoption of neoliberal economic policies favoured private investment and international trade. This process led to a rapid expansion of transnational companies (TNCs), whose interests have permeated different levels, ranging from consumer behaviours to political and economic policies. This section explains how the power of corporations in health has been studied, and how it can be understood using commercial determinants of health as a conceptual framework.

In the last decade, a large body of research has explored the effects of TNCs in non-communicable diseases (NCDs) – particularly assessing the role of the tobacco industry and the impact of food marketing on children (Moodie et al. 2013; Glasgow and Schrecker 2016). While most of the literature on the topic comes from different disciplines and explores various health outcomes, it can be analysed and understood through the concept of commercial determinants of health. Figure 2.1 shows the dynamics included in the conceptual framework on commercial determinants of health proposed by Kickbusch et al. (2016). This framework suggests that internationalisation of trade expanded the scope of international corporations, causing an increase in the demand for their products and services. Moreover, this framework states that this process has been possible due to four main channels including marketing strategies, control over supply chains, lobbying tactics, and corporate citizenship mechanisms. As a result, these changes impact consumer environments, which in turn determine health outcomes.

The definitions of this concept vary across fields, however, for this thesis, commercial determinants of health are defined as “strategies and approaches used by the private sector to promote products and choices that are detrimental to health” (Kickbusch et al. 2016: e895). Following this definition, Kickbusch et al. (2016) built a conceptual framework to explain how TNCs use different drivers and channels to disseminate NCDs.

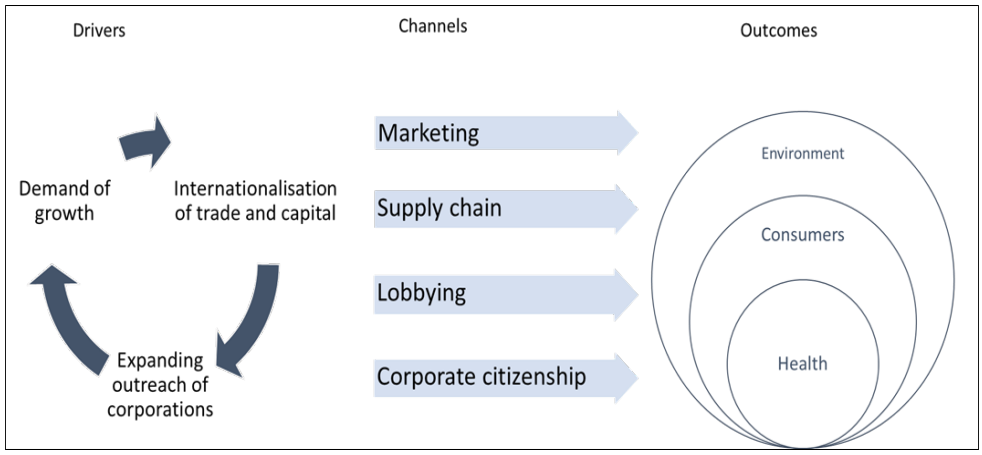

Figure 2.1 Dynamics included in the commercial determinants of health. Source: adapted from Kickbusch et al. 2016

This framework allows the overall body of literature to be understood and classified concerning the impact of corporations in health by identifying four channels of influence: marketing, lobbying, corporate social responsibility strategies, and extensive supply chains. One of the most studied channels is marketing strategies since they are the most visible component of the presence of TNCs. Marketing strategies can manipulate the desirability and acceptability of unhealthy commodities such as processed foods and alcohol (Friel et al. 2013b). A considerable amount of research has focused on the relationship between alcohol marketing and drinking behaviours (Jackson et al. 2009). Although results vary

among studies, a strong association between increased exposure to alcohol advertisement and high alcohol consumption, particularly among teenagers, has been found (Hastings et al. 2005; Dalmeny and Preston 2004; Lobstein et al. 2017).

A large volume of literature focused on the impact of food advertisement in children. These studies have shown that food marketing strategies targeting children promote food with a high content of fats and sugars (Lobstein and Aikenhead 2010). Moreover, evidence suggests that there is a strong association between high exposure to food advertising and unhealthy dietary choices (Kraak and Story 2015; Cairns et al. 2013).

It can be argued that lobbying strategies constitute the most profound influence of TNCs since they have a direct influence on the policy sphere. The first studies assessing the role of lobbying strategies in the promotion of unhealthy commodities concerned the tobacco industry (Bialous et al. 2001; Morley et al. 2002; Hu et al. 2002). Most of these studies have assessed the impact of tobacco companies in preventing and blocking policies proposing taxes on tobacco products (Gilmore et al. 2015). More recently, studies have paid attention to the role of lobbying strategies concerning the taxation of sugary and alcoholic drinks, as well as for food labelling (Miller and Harkins 2010; Friel et al. 2013b). Taken together, most of the studies agree that TNCs play a significant role in preventing policies that aim to reduce the consumption of unhealthy commodities. Evidence also suggests that the effect of such lobbying strategies is larger in LMICs, where economic priorities surpass health concerns (Kickbush et al. 2016).

To deflect the attention from their links with NCDs, many TNCs have used corporate social responsibility (CSR). Literature in this subject has explored various types of CSR, from involvement in social programmes to sponsorship of sports teams and

events (Moodie et al. 2013). For example, studies have assessed how tobacco corporations promote the prevention of violence against women, and ultra-processed food and drink corporations emphasise physical activity by sponsoring sports teams and events (Moodie et al. 2013). At the same time, CSR strategies have also lead to investment in research, resulting in biased studies (Moodie et al. 2013). For example, Lynch et al. (2007) conducted a meta-analysis of research publications assessing systematic bias from industry funding. The results showed that articles funded exclusively by food and drinks companies were four-times to eight-times more likely to have conclusions favourable to the financial interests of the sponsoring company than those that were not sponsored.

Finally, a common characteristic among TNCs is that they have extensive control over the supply chain. This plan of action has led to an expansion of TNC influence across the globe (Kickbusch et al. 2016). Most of the literature assessing the role of supply chains has focused on processed food and drink industries (Hawkes 2010; Hawkes 2004). These studies have shown evidence that control over the supply chain of food and drinks has impacted agricultural practices, food processing, packaging, and retailing (Lang and Heasman 2004; Darling 2007). Such changes have been linked to a major consumption of energy-dense foods which can be linked to the adoption of westernised eating patterns (Kickbusch et al. 2016). The following section will focus on how corporations have changed food supply chains and their relationship with food consumption patterns.

2.2 Corporations and the Food Supply Chain

Economic globalisation has been characterised by the expansion of trade, foreign direct investment (FDI) and TNCs. Various studies have linked this globalisation to

the rise of obesity and the shifts in food consumption patterns. According to the overall body of literature on the topic, globalised economies have supported changes throughout the food supply chain, producing transformations from the way food is produced to the way it is sold and consumed. Such changes have affected the price and availability of energy-dense foods, particularly in LMICs.

The following sections explain how the presence of TNCs has shifted the food supply chain and has favoured the consumption of energy-dense foods. This analysis is divided into three subsections, each one corresponding to the three main parts of the food supply chain: food production (section 2.2.2), food processing (2.2.2) and food retailing (2.2.3). Figure 2.2 explains the four main channels through which trade liberalisation impacts food supply chains: increased production of energy-dense foods; increased imports of energy-dense foods; increased FDI in food retailing and processing and the presence of global food marketing. Together, these channels have increased the accessibility and availability of unhealthy food, as well as its desirability. As a result of these changes, dietary patterns have been modified, supporting an increase in energy intake, which has a direct impact on overweight and obesity prevalence.

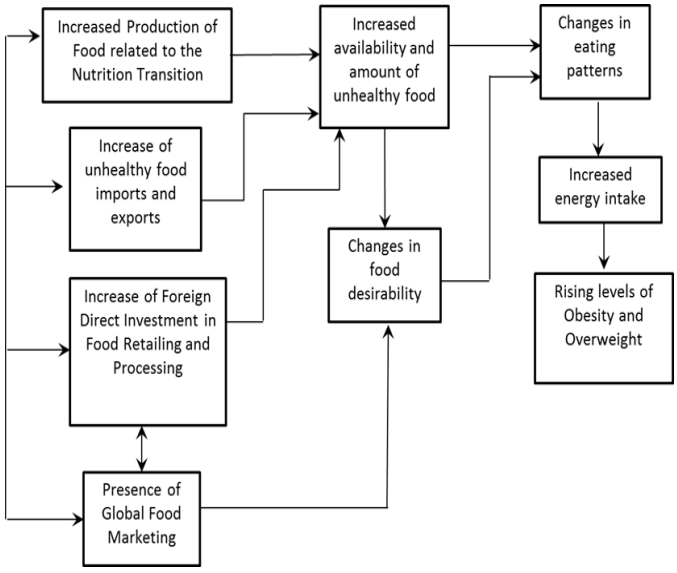

Figure 2.2 Relationship between corporation control and food supply

2.2.1 Food production

Although the adoption of trade liberalisation began in the 1980s, it was not until the 1990s that food products were officially included in international trade. The opening of global trade in agricultural products and food took place in 1995 after the Uruguay Round of the General Agreement on Trade and Tariffs (GATT). As a result, the Agreement on Agriculture (AoA) was implemented, and the World Trade Organisation (WTO) was founded. The creation of these two instances did not only enable the trade of agricultural products and food but also supported the control of TNCs over agrarian production and the implementation of agricultural policies, favouring the production of certain crops.

As a result, food trade increased from US$ 224 billion in 1972 to US$1455 billion in 2005, making food imports account for more than 11 per cent of global trade (Hawkes 2010). The literature on food trade has highlighted that the increase in food imports has had considerable nutritional implications, by altering the availability and prices of food, hence influencing food choices and preferences (Hawkes et al. 2009; Friel et al. 2013a; Martinez-Steele et al. 2017: Monteiro et al. 2010). Most of the studies concerning changes in food production and globalisation have paid attention to the production of meat and oil crops. The focus on these products is based on their close relationship to the nutrition transition characterised by increased consumption of vegetable fats, animal protein and processed foods (Hawkes 2010).

Since the implementation of the AoA, tariffs on meat and animal feed reduced at a global level. These changes have triggered an increase in meat production since the early 1990s (Zahniser 2007; Hawkes 2005; Hawkes 2010). The opening of trade barriers for meat products has supported the meat trade. Even though the meat trade has grown since the AoA, it has mainly been restricted to chicken and specific

countries such as Brazil and the United States. Furthermore, the increased trade of animal feed (particularly of yellow corn and soybean meal) has enabled a significant rise in chicken production (Watts 1999). The consequential low prices of animal feed, in addition to improved breeding technologies, has led to a significant production of chicken worldwide. To date, chicken consumption has the highest annual rise, compared to other meats such as beef and pork (Hawkes 2010).

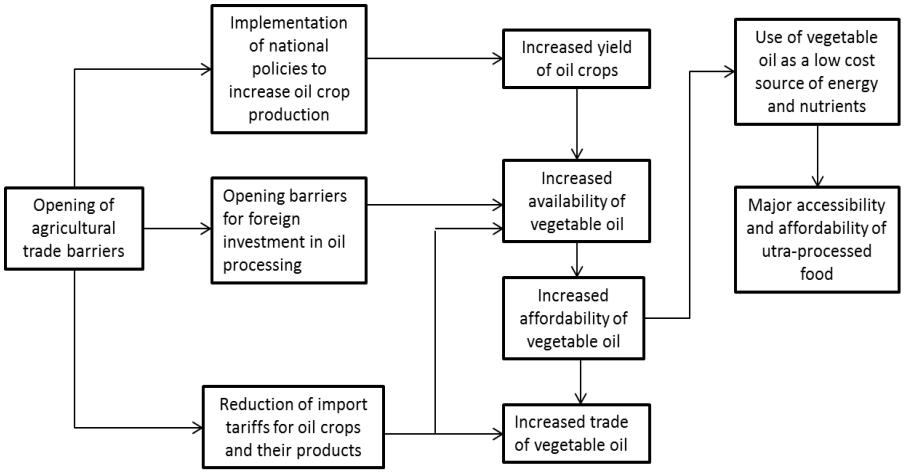

Figure 2.3 Association between the opening of trade barriers and higher availability and accessibility of vegetable oils. Source: Constructed by the author

The AoA enabled the implementation of agricultural policies for the production of yellow corn in the United States for animal feed and biofuel purposes. The overproduction of corn resulted in the production of High Fructose Corn Syrup (HFCS) and its use as a low-cost sweetener. Data from several studies suggest that imports of HFCS increased the availability and accessibility to inexpensive energy-dense foods (Basu et al. 2013; Stuckler et al. 2012; Monteiro et al. 2010; Hawkes 2010; Popkin 2002). Imports of HFCS have particularly affected countries involved in commercial agreements with the United States (Barlow et al. 2017). For instance, several studies have investigated the effects of the North American Free trade Agreement (NAFTA) in HFCS availability. Such studies revealed that NAFTA

supported the use of HFCS as a sweetener for most processed foods in Canada and Mexico (Barlow et al. 2017; Clark et al. 2012; Hawkes 2010; Hawkes et al. 2004; Friel et al. 2013a). Another significant change in food production corresponds to oil crops. Several studies have investigated the effects of trade liberalisation in the increasing availability and accessibility of vegetable oils and oil crops (Hawkes 2010; Chopra 2002; Hawkes 2002).

The existing literature on the topic agrees that greater availability of vegetable oils can be linked to agricultural policies implemented since the beginning of the 1990s for the production of oil crops (Watts 1999; Hawkes 2010; Thow and Hawkes 2009; Friel et al. 2013b). Various LMCs such as Malaysia, Indonesia, Brazil, and Argentina boosted their oil crop yield to globalise their domestic markets (Hawkes 2010, Watts 1999). The increased availability of vegetable oils has enabled the prices of vegetable oils to drop significantly, allowing food-processing companies to use them as a cheap industrial source of energy (Martinez-Steele et al. 2016). The inclusion of low-cost ingredients in processed foods has made them highly affordable, hence contributing to their mass consumption (Martinez-Steele et al. 2017; Martinez-Steele et al. 2016; Monteiro et al. 2010). Figure 2.3 illustrates the relationship between the opening of trade barriers and the increased availability of vegetable oils. This diagram details that, at a global level, the opening of trade barriers led to increased foreign investment in oil processing, as well as reduced trade barriers for vegetable oils.

At a national level, these actions were supported by policies incentivising the production and processing of vegetable oils. Taken together, all of these processes supported the production of vegetable oils, which led to increased availability and decreased cost of vegetable oils.

2.2.2 Food processing

As mentioned previously, the opening of trade barriers leads to a reduction in restrictions for foreign investment. One of the primary purposes of the implementation of trade and investment agreements has been to provide stronger investor protection, and to grant international companies the same rights as their domestic counterparts (Hawkes 2010; Friel et al. 2013b; Thow et al. 2015; Swinburn et al. 2013). By incentivising the presence of foreign companies, the amount of FDI in food processing and retailing increased.

Several lines of evidence suggest that FDI is more cost-effective than commodity trade because it is exempt from tariffs and import quotas (Swinburn et al. 2013; Friel et al. 2015; Hawkes et al. 2009). The opening of investment barriers led to penetration of transnational food companies, who could profit from the closeness to their customer base and were able to dominate the markets in certain brands (Bolling and Gehlhar 2005). The expansion of TNCs also triggered domestic investment in food processing, therefore reinforcing this practice. Both processes increased the availability and accessibility to ultra-processed foods. Globally, the sales of packaged food increased from US$1, 095 billion in 2006 to US$3.03 trillion in 2015 (Euromonitor 2018). While the existing evidence highlights that sales of processed foods are lower in LMICs than in HICs, the annual sales growth is four times greater in LMICs (Hawkes 2010; Friel et al. 2015).

Data from several studies have indicated that, globally, the fastest growth has been in snacks, soft drinks, and ready meals. To date, recent studies have suggested that products such as breakfast cereals have experienced double and triple-digit growth in Latin America and Eastern Europe in the last three decades (Hawkes et al. 2009; Hawkes 2010; Popkin and Du 2003).

Together, much of the evidence suggests that the introduction of “new foods” in LMICs has enabled the replacement of traditional foods. For example, the marketing of chocolate bars in China has allowed the replacement of traditional snacks such as nuts (Baker and Friel 2014). The overall body of literature also suggests that food-processing companies often market to appeal to local tastes and consumer preferences (Monteiro et al. 2010; Baker et al. 2016; Baker and Friel 2014; Baker and Friel 2016).

The greater availability of processed foods has also facilitated an increase in the advertising and promotion of processed foods. Evidence suggests that marketing for a wide range of energy-dense foods is targeted towards children and young people (Lobstein 2010). Research from Malaysia, Brazil, Mexico, Pakistan and South Korea has shown that more than 50 per cent of television advertising for food is targeted towards children (Hawkes 2004; Hawkes 2007; Hawkes et al. 2011; Harris et al. 2009).

2.2.3 Food retailing

The increased control of corporations has impacted on food distribution and retailing. The opening of investment barriers in the 1990s enabled the expansion of international food retailers. At a global level, one of the most studied examples of transnational food retail penetration is the growth of supermarket chains, which has also been referred to as “supermarketisation“ (Winson 2004).

Several studies suggest that the expansion of supermarkets has impacted dietary patterns through two main paths (Thow and Hawkes 2009; Swinburn et al. 2013; Reardon et al. 2010; Hawkes 2009; Clark et al. 2012; Thow et al. 2011; Baker et al.

2016). Firstly, due to their large-scale and high-volume distribution systems, their presence has stimulated the distribution of imported ultra-processed foods. In the case of LMICs, the increased presence of supermarkets has enabled the import of large volumes of food, providing a space for foreign food suppliers to thrive.

Secondly, several studies have highlighted that as a result of their large scale and capital base, supermarkets can promote ultra-processed foods by offering a more extensive choice of such foods at a lower price than traditional small retailers (Hawkes 2010). Also, the ability to sell in large volumes enables supermarkets to promote ultra-processed foods using sale promotions, without jeopardising their profits (Reardon and Berdegue 2002; Winson 2004; Reardon et al. 2010).

The opening of trade and investment barriers has supported TNCs to extend their control over the complete food supply chain in terms of production, processing, distribution and marketing of food (Swinburn et al. 2013; Hawkes et al. 2009). Moreover, if this phenomenon is analysed at a global level, the control of the global food supply chain is in the hands of a relatively small number of corporations (Friel et al. 2013a; Hawkes 2005).

Changes in the supply chains have been possible because of the expansion of bilateral and regional trade agreements at a global level, which by 2017 had amounted to more than 270 (Barlow et al. 2017). The next section provides an overview of the changes in the Mexican food supply chains since the adoption of trade liberalisation.

2.3 Changes in the Mexican food supply chain

The liberalisation of the Mexican economy provided the optimal policy environment for an increased presence and expansion of transnational food companies. Thus, the Mexican food supply chain experienced numerous transformations. Such changes included the mechanisation of agriculture, the increased production of processed edible goods, and the emergence of different types of food retailers. This section begins with a brief overview of the context of trade liberalisation in Mexico and then explains how the presence of TNCs shifted food production, processing and retailing.

2.3.1 Trade liberalisation in Mexico

In 1994, Mexico signed the North American Free Trade Agreement (NAFTA) together with the United States and Canada. This agreement signified the entrance of Mexico into international trade. However, the signing of NAFTA was not unexpected; it was the result of a series of structural changes in the Mexican economy that had been happening since the 1980s (Faux 2006).

During the late 1970s, many countries experienced an economic crisis due to the plummeting of oil prices (Harvey 2007). This crisis had adverse effects on the Mexican economy, causing questioning and anger towards the existing protectionist economy (Faux 2006). As a response, the government decided to take over failing private enterprises and borrowed from foreign investors to fund them (Harvey 2007). Thanks to several oil discoveries during the previous years, foreign investors did not hesitate to lend the money to the Mexican government.

However, in 1981, petroleum prices plummeted again, causing a considerable foreign capital flight. By 1982, the situation was unsustainable, and the foreign debt had accrued to $5 billion (Hiernaux 1995). The president at the time, José López Portillo, took emergency measures to counterbalance this situation. The measures included cuts to subsidies, a 30 per cent minimum wage rise, and the freezing of dollar accounts (Banda and Chacón, 2005).

When Miguel de la Madrid was elected president (1982), he found a stagnated economy: a high deficit in public finance, an undervalued local currency and constant public and private debt re-negotiations (Hiernaux 1995). To face the unfavourable economic climate, De la Madrid and his administration promoted a series of structural changes favouring private enterprises and the opening of trade barriers (Banda and Chacón 2005). The Mexican government then tried to create a base of financial and political support for the liberalisation of markets. The first financial institutions to propose new policies in favour of free trade were the Bank of Mexico together with the International Monetary Fund and the World Bank. Nevertheless, this bailout required the adoption of structural reforms that included privatisation of nationally owned enterprises and cuts on the existing trade barriers (Thacker 1999; Harvey 2005).

In line with the structural reforms, Mexico signed the GATT in 1986. The signing of GATT meant Mexico's official entrance into international trade. To support liberalisation and stabilise the economy at a national level, De La Madrid's administration created the Economic Solidarity Pact (PSE) in December 1987. The PSE encompassed a series of reforms aimed at increasing exports in the manufacturing sector as well as the attraction of foreign capital (Thacker 1999; Dussel 2000). One year later, Carlos Salinas assumed the presidency (1988).

Immediately after taking office, Salinas and his administration launched the Development Strategy, presenting it as the key to solve Mexico´s economic problems, and to enter an era of globalisation. The implementation of this strategy unchained a series of policy reforms entailing the privatisation of banks and ejidos[1] as well as changes in the foreign investment law (Faux 2006).

The previous series of events can be interpreted as the prelude to signing the North American Free Trade Agreement (NAFTA). The importance of NAFTA relies on its scope, including clauses associated with related merchandise trade as well as investment flows, environmental policies and labour markets (Kose et al. 2004). In 1994, Mexico signed NAFTA, together with the United States and Canada. NAFTA was one of the first regional trade agreements signed between two high-income and a middle-income country (Kose et al. 2004).

The fundamental settlements of NAFTA included equal treatment of national and foreign investors, elimination of performance requirements for foreign investors, increased rights for foreign investors to retain profits and returns, and the ban of new laws that would change the status of foreign investment (Hawkes 2005). In other words, the implementation of NAFTA permitted the free entrance of foreign companies into Mexico without any restrictions or conditions.

The liberalisation of trade in Mexico and the implementation of NAFTA allowed various changes in Mexican foreign policy, as well as agreements with other countries. Since the implementation of NAFTA, Mexico has signed 12 free trade agreements with 46 countries, and 32 promotion and reciprocal protection investment agreements with 33 countries (Secretaria de Economia 2015). The

[1]Ejidos are commonly owned plots of land. They were instituted after the Mexican Revolution (1910) as part of a land repartition strategy denominated *Reforma Agraria*

impact of these changes is distinctly evident in the automobile industry, electronic production, telecommunications, energy production and the food supply chain.

2.3.2 The Mexican Food Supply Chain

As explained in section 2.2, the opening of trade and investment barriers enables a series of changes in food supply chains, which have impacted dietary patterns. In the case of Mexico, the liberalisation of trade and the implementation of NAFTA in 1994 unchained many transformations in the food supply chain (Hawkes et al. 2012; Clark et al. 2012; Hawkes 2005; Thow 2009; Chavez 2002). Such changes are consistent with current evidence showing that overweight and obesity levels have raised at unprecedented levels since the 1990s (Clark et al. 2012; Acosta-Martinez and Alvarez-Aledo 2005: Perez-Ferrer et al. 2009; Gutierrez-Haces 2004; Zepeda et al. 2009). The next sub-sections explain changes to the Mexican food supply chain according to production, processing and retailing.

2.3.2.1 Food Production

The reduction of import tariffs for agricultural products and livestock produced by trade liberalisation introduced several changes to Mexican food systems. One of the most significant impacts of these policies relates to the import of animal feed. The reduction of trade tariffs for grains such as soybean and yellow corn intensified the production of meat in Mexico and bolstered the mechanisation of production, particularly for poultry and pork. These changes in meat production were only possible due to the large amounts of foreign and private investment in such industries (Acosta-Martinez and Alvarez-Aledo 2005). As an example, Tyson and

Pilgrim (both US-owned companies) now control more than half of the chicken production in Mexico (Salomon 2005; Clark et al. 2012; Hawkes et al. 2012).

During the initial negotiations of NAFTA, three agricultural products were left aside: beans, corn and sweeteners (Clark et al. 2012; Acosta-Martinez and Alvarez-Aledo 2005: Perez-Ferrer et al. 2009). The imports of these products were only banned for the first 14 years of the treaty. The import of corn and sugar are particularly sensitive for the Mexican economy since they have constituted two of the main agricultural products for more than three centuries (Acosta-Martinez and Alvarez-Aledo 2005). The reduction of tariffs on corn has created a dependency on US imports, which affected the affordability of the traditional corn-based diet (Clark et al. 2012). At the same time, the trade of sweeteners allowed imports of HFCS, which has been used as a non-expensive sweetener in processed food, replacing the use of sugar cane (Martinez-Steele et al. 2016).

The reduction of import barriers for agricultural products was two-sided. First, the US reduced import barriers for Mexican products. The decrease of US import barriers produced a strong specialisation in Mexican agriculture, leading to a concentration of the production of seasonal fruits and four main crops - tomatoes, avocados, limes and guavas (Zepeda et al. 2009). Second, the opening of US barriers to Mexican products entailed higher sanitary and quality standards, which were reached through highly mechanised production. Consequently, in a similar manner to livestock production, large amounts of foreign capital were invested (Acosta-Martinez and Alvarez-Aledo 2005; Zepeda et al. 2009). These policies hurt traditional agriculture by decreasing the variety in the production of fruits and vegetables, as well as leaving millions of small farmers without jobs (Clark et al. 2013; Faux 2006).

2.3.2.2. Food processing

The amount of foreign-owned food processing companies in Mexico has increased enormously since the early 1990s (Clark et al. 2012; Rendon and Morales 2008). This expansion was possible due to a series of mergers and acquisitions from TNCs. This process bolstered the presence and market penetration of companies such as Unilever, Coca-Cola, Pepsi, Zumex, Labatt Brewing, and Nestle, among many others (Dussel 2000).

For instance, five years after the signing of NAFTA, the investment of US companies in Mexican food processing amounted to more than 5.3 billion dollars, compared to 210 million in 1987. Another significant rise took place in soft drinks consumption, which increased from 275 per capita servings per year in 1992 to 487 in 2002 (Stern et al. 2014). The increment of investment in food processing affected the amount and availability of unhealthy food; constituting a key element for Mexico's accelerated nutrition transition.

2.3.2.3. Food retailing

The opening of trade barriers allowed the spread of supermarkets and convenience stores throughout Mexico. This expansion was possible due to a series of mergers and acquisitions between Mexican and foreign companies (Chavez 2002; Reardon and Berdegue 2002; Clark et al. 2012).

While supermarkets and convenience stores were present in Mexico since the 1950s, their rapid expansion only began after the 1990s. Several factors are associated with this upsurge, including urbanisation, population growth and the adoption of "westernised" eating patterns. The structural changes that have

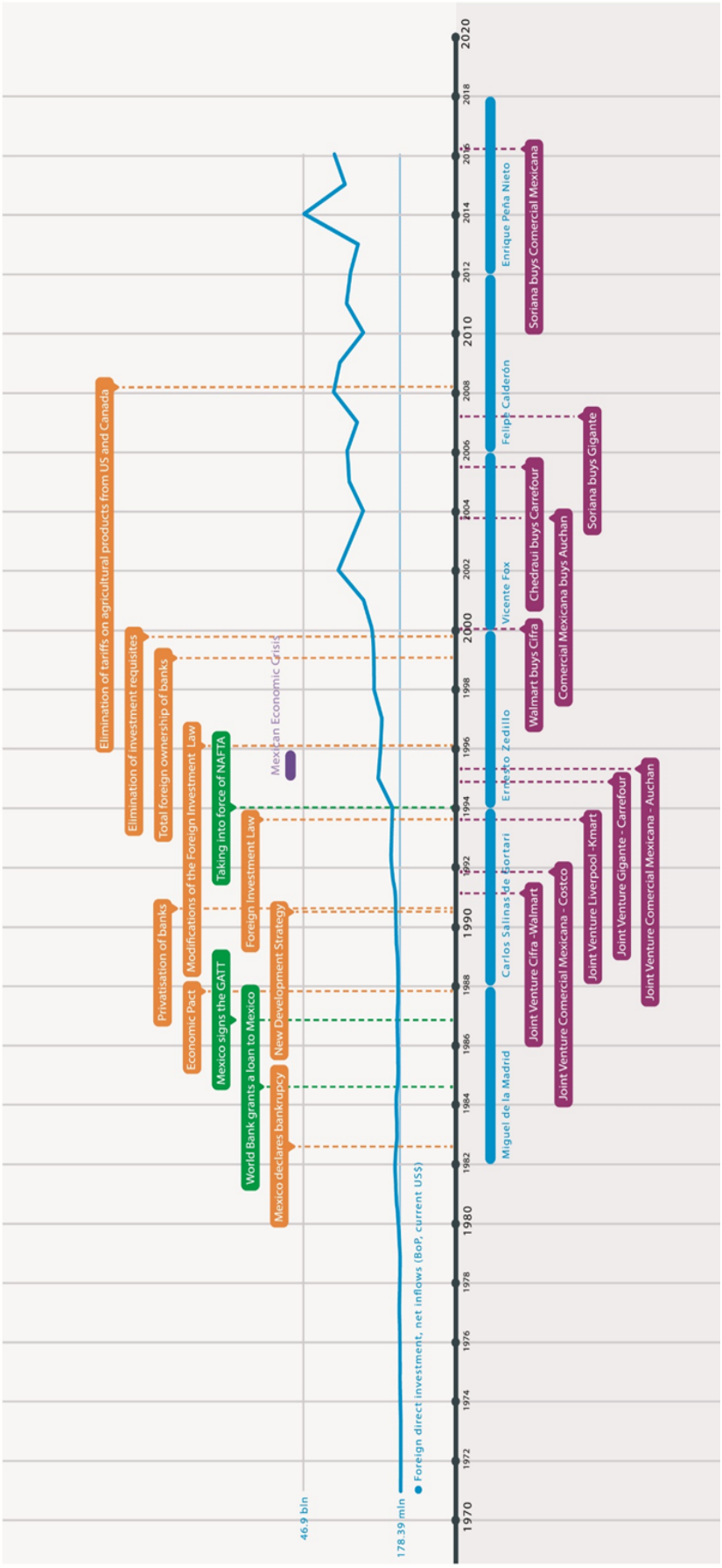

Figure 2.4. Time line showing the evolution of food retailing in Mexico from 1970 to 2020. In violet: changes in Mexican retail. In green: changes in international trade. In orange: Mexican events connected the opening of trade barriers. Source: Constructed by the author

happened in Mexico since the late 1980s created a policy environment that enabled a series of mergers and acquisitions between Mexican and foreign transnational food-retailers.

The opening of trade and investment barriers bolstered the presence and expansion of transnational food retailers in Mexico such as Wal-Mart, Costco, K-Mart, 7-Eleven, Auchan and Carrefour (Chavez 2002). As an initial entry strategy, foreign companies created alliances with experienced Mexican food-retailers. Once the alliances were created and foreign ownership law changed, foreign companies were able to buy out Mexican companies (Torres and Gasca 2001; Chavez 2002).

Most of the alliances did not endure due to two main reasons. Firstly, the mergers created cultural differences in the companies' management, hence leading to internal conflicts. Secondly, Mexican retailers did not have enough capital to follow the expansion intentions of foreign retailers after the 1995 economic crisis (Dussel 2000). Only Wal-Mart, Costco and 7-Eleven were able to thrive in the Mexican territory. Figure 2.4 shows the expansion of food retailers according to the opening of trade and investment barriers in Mexico.

The presence of foreign capital is also visible in the raised amount of fast-food restaurants. American franchise-based companies have the most presence in Mexican foodscapes (Dussel 2000). The three most numerous chains are McDonald's, Tricon Restaurants International (owner of trademarks such as Kentucky Fried Chicken and Pizza Hut) and Starbucks. Other fast-food companies such as Burger King, Domino's and Subway also have an important presence in Mexican foodscapes, particularly in urban settings (Clark et al. 2012).

Although the increase of fast-food outlets represents an important addition to Mexican foodscapes, they are not economically accessible to the gross population.

The prices of fast food are not affordable for the low–income population; the minimum wage is 88$ MXN per day, and a McDonald's meal is 40$ MXN (Mc Donald's n.d.). Therefore, low-income groups opt to buy food at street-food stands, which constitute a long-standing tradition in Mexican food culture (Long-Solis 2007).

2.4 Local food environments

The previous sections have explained how the global economy has enabled changes in food supply chains. However, these global drivers also have a meaningful impact at a local scale by shaping food availability, accessibility, affordability, acceptability and accommodation (Caspi et al. 2012). A large and growing body of literature has evidenced that neighbourhood food environments are an essential contributing factor for dietary behaviours and obesity (Giskes et al. 2011; Holsten 2009; Black et al. 2014). Moreover, several studies have suggested a link between neighbourhood deprivation and low access to healthy foods (Williams et al. 2012; Smith et al. 2010; Black et al. 2014; Thompson et al. 2013; Inglis et al. 2008).

The following section is divided into three parts. Firstly, it describes how local food environments have been related to dietary behaviours and health. Secondly, it provides an account of current literature linking food environments and socio-economic indicators. Finally, it includes an analysis of academic research on local food environments in Mexico.

2.4.1 Heath and Dietary Impacts

The mechanisms through which environmental factors influence dietary behaviours have been explored by various studies (Cummins and Macintyre 2006; Moore et al. 2008; Cummins 2007; Carpi et al. 2012). One of the most accepted models was

proposed by Glanz et al. (2005), in which dietary behaviours take place in three settings: community nutrition environment, consumer food environment and organisational food environment (Figure 2.5).

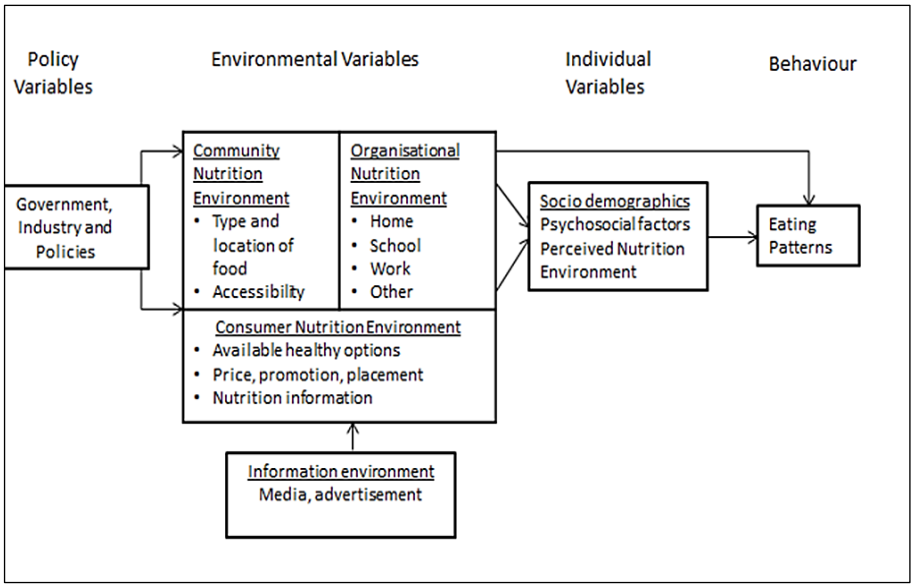

Figure 2.5 Model of nutrition environments. Source: Glanz et al. 2005

Following this conceptual model, most of the literature on food environments has focused on the community food environment (Caspi et al. 2012; Thornton et al. 2012). Despite a large amount of research, the use of different methodologies has made the evidence heterogeneous. Most of the studies have centred their attention on assessing the access to three types of food outlets: supermarkets, convenience stores and fast-food restaurants (Kirckpatrick et al. 2014; Caspi et al. 2012).

The analysis of supermarket density and proximity with health has been a common topic among geographical research since they represent the most common source of food in HICs (Winson 2002; Reardon et al. 2010). While several studies have assessed the relationship between supermarkets and health, the results are heterogeneous, and most of them have not evidenced significant results (Caspi et

al. 2012; Timperio et al. 2008; Powell et al. 2006; Morland et al. 2006; Charriere et al. 2010; Pearce et al. 2008). Furthermore, several studies have assessed supermarket density in the context of food deserts, focusing on obesity as an outcome (Black and Macinko 2008; Smith and Cummmins 2010). Contrary to the studies focusing on supermarket density, research concerning food deserts has found significant associations with increased BMI (Casagrande et al. 2009; Holsten 2009; Lovasi et al. 2009).

Similarly to the assessment of supermarkets, research linking access to convenience and grocery stores has not shown consensus in their findings. On the one hand, several studies have found consistent evidence linking higher BMI and high densities of convenience stores. (Wang et al. 2007: Morland et al. 2006). On the other hand, various other studies have found negative associations between the presence and accessibility to convenience stores and dietary intake or BMI (Inagami et al. 2006; Morland et al. 2002; Strum and Datar 2005).

Regarding fast food outlets, a growing body of research has assessed the impact of the presence of fast food outlets on dietary behaviours and BMI. The outcomes of the overall body of research do not reveal a clear pattern (Maddock 2004; Ellaway et al. 2012; Pearce et al. 2009; Strum 2008). While numerous studies affirm that there is a significant association between accessibility to fast food and higher BMI, others have not found any significant associations (Pearce et al. 2008; Caspi et al. 2012; Kirkpatrick et al. 2014).

2.4.2 Social inequalities

In contrast to the previous results, the overall body assessing local food environments and socio-economic indicators has shown unanimity. Most of the studies on the topic have shown that people living in low income or ethnic minority neighbourhoods have more reduced access to healthy food sources compared to higher-income neighbourhoods (Beaulac et al. 2009; Black et al. 2013, Larson et al. 2009, Walker et al. 2010). The difference between access to healthy and unhealthy food has generally been defined according to outlet type; considering supermarkets, grocery stores and greengrocers as healthy food sources and convenience stores and fast-food restaurants as unhealthy (Black et al. 2014).

To date, many of the studies analysing access to healthy stores and socio-economic indicators are not entirely consistent (Black et al. 2014). On the one hand, most of the research carried out in the USA has evidenced that low-income communities had fewer supermarkets per capita than more affluent areas (Black et al. 2014; Larson et al. 2009; Walker et al. 2010). Literature has also highlighted that distances to healthy food outlets such as supermarkets and grocery stores are greater in low-income areas, compared to middle and high-income ones (Powell et al. 2007; Black et al. 2012).

On the other hand, research carried out in countries such as Australia and Canada has found little variation in the density and proximity to supermarkets and grocery stores according to deprivation and ethnicity (Beulac et al. 2009; Ball et al. 2009; Smoyer-Tomic et al. 2008). Moreover, studies from the UK and Sweden have found that supermarkets were more abundant in low-income areas, compared to high-income areas (Cummins and Macintyre 2006; Kawakami et al. 2011).

Studies assessing the relationship between access to unhealthy food outlets such as fast-food restaurants and social inequalities has revealed that areas with higher levels of deprivation and ethnic populations have greater access to fast food outlets than more affluent, predominantly white neighbourhoods (Beaulac et al. 2009, Black et al. 2014, Larson et al. 2009, Walker et al. 2010). This evidence mainly comes from studies carried out in the US due to their higher levels of urban deprivation. However, research carried out in other HICs (viz. Canada, UK, and Australia) have also suggested a strong association between higher access to unhealthy food outlets and increased levels of deprivation (Beaulac et al. 2009, Black et al. 2011, Black et al. 2014; Fleischhacker et al. 2011, Fraser et al. 2010, Hilmers et al. 2012). This evidence suggests that inequalities are not only experienced at an individual or household level but can also take place at a neighbourhood level, playing an essential role in determining access to healthy food.

2.4.3 Evidence from Mexico

One of the main limitations of studies on local food environments is their setting. While research assessing local food environments in HICs is abundant, evidence from LMICs is scarce. The lack of sufficient evidence from LMICs results in inconsistencies since, as explained in section 2.2, they have undertaken the most changes in the past decades, compared to HICs (Mhurchu et al. 2013).

Research on Latin-American local food environments has been carried out in Brazil, Mexico, Chile and Guatemala. These studies have shown that higher densities of unhealthy food outlets hold positive associations with higher BMI and higher consumption of ultra-processed foods (Duran et al. 2013; Duran et al. 2012; Duran

et al. 2016; Vedovato et al. 2015; Afsaw et al. 2008; Barrera et al. 2016; Rivera et al. 2010; Barquera et al. 2018).

In the case of Mexico, most studies have focused on the measurement of food environments around primary schools (Barquera et al. 2018; Barquera et al. 2016; Bridle-Fitzpatrick 2015; Bridle-Fitzpatrick 2016). Such studies have found significant associations between toxic food environments[2] around schools and increased BMI in children. An interesting aspect of these studies is that toxic food environments around schools were composed mainly by street food vendors, which offer a wide variety of sweets and ultra-processed foods at accessible prices for children (Barquera et al. 2018).

This evidence shows that traditional retailers such as marketplaces and street vendors play an essential role in local food environments, particularly for the distribution of fresh produce. Also, the penetration of transnational corporations has triggered shits in food supply chains, having a direct impact on local food environments. Understanding how food environments affect dietary intake is crucial for determining the pathways between diet and health outcomes such as for overweight, obesity, diabetes and cardiovascular disease (Caspi et al. 2012; Pinho et al. 2018).

2.5 Summary

This chapter explained current theoretical perspectives and evidence relevant to the study of changes in food supply chains derived from the extensive power of international corporations and their effects on health. In particular, this chapter has emphasised that changes in food supply chains have been faster and more

[2] Toxic food environments are defined as environments offering mostly ultra-processed foods

profound in LMICs, and how they have exacerbated health and social inequalities. These understandings are particularly relevant for Mexico, where the opening of trade and investment shaped social and geographical differences in access to healthy foods.

The empirical evidence reviewed in this chapter shows that economic globalisation has favoured the production of ultra-processed foods, as well as the expansion of supermarkets, convenience stores and fast-food restaurants. In the case of Mexico, the evidence reviewed showed that the presence of TNCs unchained changes in the whole food supply chain, impacting food production, processing and retailing. To date, evidence suggests that the "modernisation" of food supply chains has contributed to the global burden of obesity and NCDs.

As argued in this chapter and across the existing literature, findings exploring the relationship between local food environments and health or dietary behaviours are heterogeneous. On the one hand, the lack of consensus between studies is related to the differences in scales and measurement methods of the assessment of the local food environment. On the other hand, the differences between findings also bring to light the importance of contextual specificities of each food environment the context in which food environments are studied.

The next chapter examines how the opening of trade barriers has changed food supply chains at a global level. Changes are measured through a trajectory analysis of food production, processing, and retailing across 145 countries.

3. Linking trade and investment liberalisation, food supply chains and Body Mass Index (BMI)

3.1 Introduction

As explained in Chapter 2, it is hypothesised that the liberalisation of trade and investment impacted food supply chains through three main pathways: a) the opening of international food barriers, leading to the global spread of ultra-processed foods; b) the rapid expansion of transnational food companies, followed by higher FDI in food production, processing and retailing, and c) the increased production of ultra-processed foods, leading to a significant availability of energy-dense foods (Hawkes et al. 2009; Hawkes 2010; Blouin et al. 2009; Thow and Hawkes 2009; Friel et al. 2013a; Friel et al. 2013b; Friel 2015; Swinburn et al. 2015; Barlow et al. 2017).

Globally, such changes relate to the adoption of "westernised" dietary patterns –characterised by energy-dense animal products, vegetable oils and sugar (Popkin 2002). While the transition to westernised diets happened gradually over the second half of the 20th century for most high-income countries, similar changes took place in less than two decades for low and middle-income countries (LMICs) (Popkin et al. 2012). The consequences of such abrupt changes have been linked to a precipitous rise in obesity and overweight levels (Swinburn et al. 2019; Schram et al. 2015)

Numerous studies have aimed to analyse the impact of globalisation on obesity levels. To measure globalisation processes, most of these studies have used

globalisation indices incorporating FDI as a percentage of GDP (Goryakin et al. 2015; Costa Font and Mas 2016; Miljkovic et al. 2015).

This chapter aims to examine the impact of changes in food systems since the opening of trade and investment barriers. This analysis was conducted through two approaches. Firstly, a global indicator was constructed to measure the extent of trade liberalisation in 145 countries. Secondly, using group trajectory analysis, countries are clustered according to the changes in their food supply chains. Trajectory groups were then used to explore changes in adult BMI.

The research questions are the following:

- To what extent has trade liberalisation influenced global food systems at a global level?
    - How can countries be classified according to changes in their food systems derived from trade liberalisation?
    - Are changes in the food systems associated with BMI?

3.2 Analysis plan

The analysis of this chapter is divided into three main sections. The first one (3.2.1) corresponds to the search for the proxy variables for the measurement of the impact of trade liberalisation in food supply chains using countries as units of analysis. The second section (3.2.2) includes the transformation of the selected variables into an index that measures de-liberalisation of food supply chains. The third section (3.2.3), describes the grouping of countries according to changes in their food supply chains, and their association with body mass index (BMI).

3.2.1 Choosing proxy variables

This analysis used proxy variables to describe changes in food supply chains, since such changes correspond to processes that cannot be measured with a single indicator. The use of proxy variables is a common strategy in social sciences and is often referred to as operationalisation (Hrisos et al. 2009). This technique is particularly useful to explore processes at a global level, where detailed data is not available for all countries yet, but a variable that has a close correlation with it can be used. For instance, many studies have used GDP as a proxy variable for quality of life or standard of living (Berenger and Verdier-Chiuchane 2007; Astorga et al. 2005).

For this research, the selection of proxy variables took place in three stages, involving the search of broad indicators, products and ingredients. Figure 3.1 shows a flowchart of this process, which will be described in the following sub-sections.

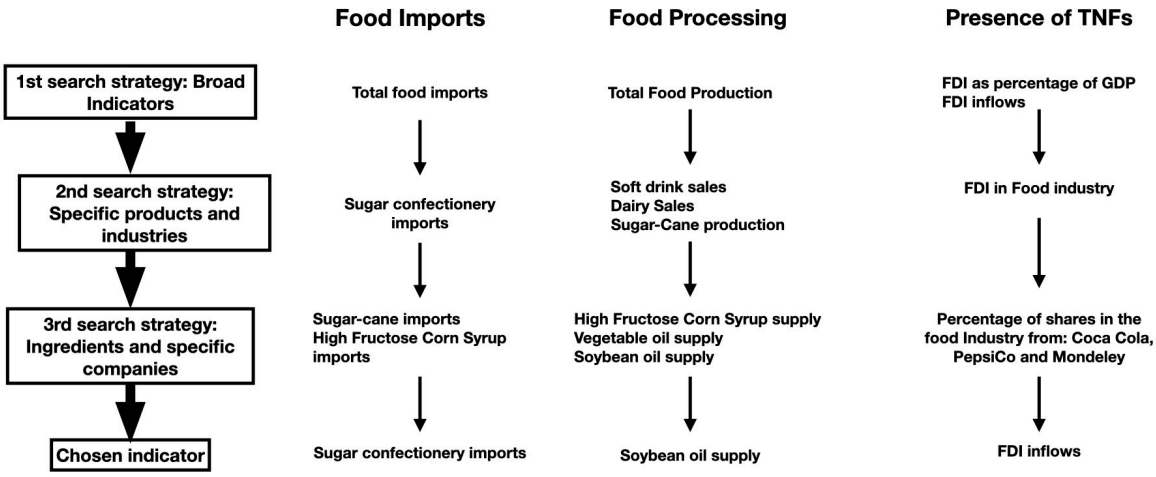

Figure 3.1 Flowchart showing the selection process for the proxy variables describing the three dimensions of trade impact in food systems.

3.2.1.1 Setting high-level criteria

This chapter aims to show a “before and after” panorama of the opening of trade barriers. For this research, 1995 is considered as the international opening of trade barriers for food products. In 1995, the Agreement on Agriculture (AoA) was implemented and signified the opening of domestic trade barriers for various LMICs (Thow et al. 2015; Hawkes et al. 2010). To show the effects of opening trade barriers, the temporal scope sought to include the longest time possible (1991 to 2013).

This analysis aimed to include as many countries as possible with the purpose of conducting a global analysis. Two main obstacles were faced when trying to meet this criterion. The creation of new countries limited the study of their change over time, thus, only countries that had existed since 1990 were taken into account. Furthermore, certain countries that are under dictatorship regimes (e.g. Cuba and North Korea) failed to disclose census information.

3.2.1.2 Setting specific criteria

In addition to the two high-level criteria, specific criteria were set for each one of the three dimensions to find the best suiting proxy variables. Concerning food imports, two specific criteria were added. The first criterion included the search for a variable that excluded life-essential commodities. This criterion was used since several countries import foods for food security purposes (Yu and You 2013). For example, countries like Belize, Nigeria and Guinea are highly dependent on food imports to cover their basic nutritional needs (Ng and Aksoy 2008). The second criterion included the search for a variable that included imports of energy-dense foods. This second specification was followed to describe trade in goods related to the adoption of westernised eating patterns.

The food-processing dimension only summed one criterion. This criterion included the search for a variable that could describe the production of ultra-processed foods. As explained in Chapter 2, the opening of trade barriers led to increased production and expansion of ultra-processed foods (Schram et al. 2018; Monteiro et al. 2016; Hawkes 2010; Swinburn et al. 2013). The consumption of the high content of fats and sugars in these types of foods has been linked to increased obesity levels and NCDs (Martinez-Steele et al. 2017; Monteiro et al. 2016).

The dimension describing the presence of TNFCs added one criterion. This specification had the purpose of describing the increased entrance of transnational companies and foreign direct investment (FDI) in food production, processing and retailing since the opening of trade barriers (Schram et al. 2015; Hawkes 2005). Considering this process, variables pursued to express the increased presence of transnational companies at a global level. Bearing in mind the general and particular criteria, the next sections explain the three stages for the search of proxy indicators.

3.2.1.3 Stage 1: Looking for broad indicators

The first stage included the search of indicators that complied with the high-level criteria, and that described general processes such as food production, food imports and foreign investment. This search resulted in the exploration of indicators from two sources: the Food and Agriculture Organisation (FAO) and the World Bank Database. Table 3.1 presents the indicators included in this stage. These indicators included total food imports, total food production, FDI as a percentage of GDP, and FDI inflows.

Although all the variables met the high-level criteria, the food imports and production variables did not meet the specific criteria, in terms of refereeing solely to energy-dense foods. As a result, these two indicators were not included, and the search for more suitable indicators continued in a second stage consisting of the pursuit of individual commodities indicator and processes linked to the food industry.

Process	Indicator	Source	Included countries	Included years
Food Imports	Total Food Imports	FAO	165	1970-2013
Food Processing	Total Food Production	FAO	165	1970-2013
Presence of TNCs	FDI as a percentage of GDP	World Bank Database	172	1980-2016
Presence of TNCs	FDI inflows	FAO stat	165	1970-2013

Table 3.1 Source, included years included and countries for the variables explored for the first stage of the analysis.

3.2.1.4. Stage 2: Looking for individual commodities and food industry

Regarding food imports and food processing, the search was refined to variables that described single products. Moreover, the search strategy for examining the presence of TNFCs was focused on assessing the impact of foreign capital in the food industry. This examination led to the analysis of various indicators from three databases, including the OECD Database, FAO stat and Euromonitor Global Market Database (GMD). Table 2.2 shows the results of the search strategy which resulted in three indicators for food processing, three indicators measuring food imports and two exploring the presence of TNCs in the food industry.

The three indicators assessing food processing (i.e. soft-drink sales, dairy sales and snack sales) were sourced from the Euromonitor GMD. These three products were selected because of their raised production since the opening of trade barriers (Thow et a.l 2015; Mendez-Lopez et al. 2017; Schram et al. 2015; Ruckert et al. 2018). The increased consumption of these foods holds an association with the adoption of westernised eating patterns, obesity and NCDs (Monteiro et al. 2016; Hawkes et al. 2010; Labonte et al. 2018). While the information gathered by these sources is very valuable input, it did not comply with the general criteria (concerning temporal and spatial scope). As a result, these variables were not chosen for the analysis.

The FAO database was a useful tool for the exploration of food product imports. Following the second strategy, three products were explored: poultry, beef and sugar confectionery. All three variables followed the two general criteria, showing a vast temporal and spatial scope. When the particular criterion was included in the analysis, poultry and beef imports were not entirely suitable. Although the overall body of literature on food trade agrees that beef and poultry imports have increased

more than three times since the implementation of the AoA, their consumption does not necessarily relate to excessive energy intake (Schram et al. 2015, Hawkes et al. 2010; Thow and Hawkes 2009; Swinburn et al. 2019). Taking into consideration that beef and poultry can also be considered healthy energy sources, they were excluded from the analysis.

Process	Indicator	Source	Countries included	Years included
Food Processing	Soft drinks sales	GMD	34	2002-2016
Food Processing	Dairy sales	GMD	34	2002-2016
Food Processing	Snack sales	GMD	34	2002-2016
Food Imports	Meat Imports	FAO stat	165	1970-2016
Food Imports	Poultry Imports	FAO stat	165	1970-2013
Food Imports	Sugar Confectionery Imports	FAO stat	165	1970-2013
Presence of TNCs	% of shares of transnational food companies in the packaged food industry and food retailing	GMD	34	2002-2016
Presence of TNCs	FDI in the Food Industry	OECD database	22	1980-2015

Table 3.2 Source, years and countries included for the variables explored in the second stage of the analysis

The inclusion of TNFCs was explored by assessing variables from Euromonitor GMD and the OECD database. By analysing data from Euromonitor GMD, it was possible to measure the number of shares foreign companies hold in the food packaging and processing industry. This information was restricted to 34 countries and only included a temporal scope of 14 years (2002 to 2016). Moreover, the OECD dataset enabled exploring the amount of FDI destined to the food industry. Although this variable included a temporal scope that could show the opening of trade barriers, its geographical scope was restricted to 22 countries. Considering the restraints of both variables, it was decided to exclude them from the analysis.

3.2.1.5. Stage 3: Looking for particular ingredients and food companies

The third and final stage included two specific aims: a) the search for ingredients found in imported and processed foods, and b) assessing the impact of the significant TNFCs at a global level. This search led to the exploration of variables included in the Euro monitor GMD and the FAO balance sheets. Table 3.3 shows the indicators included in this search, where four indicators described food processing, two food imports and one the presence of TNCs.

The search for specific ingredients led to the exploration of the production and supply of sweeteners and vegetable fats. These two types of ingredients were investigated because they are the two most added components in ultra-processed foods, and are responsible for the high caloric content of processed foods (Monteiro et al. 2017; Martinez-Steele et al. 2017).

For sweeteners, high fructose corn syrup (HFCS) was assessed for its common addition to processed food (Barlow et al. 2017). While the OECD database included information on HFCS production from 1980 to 2015, it only included 22 countries;

restraining a global assessment. Sugar supply was also examined as a possible variable and was sourced by the FAO balance sheets. These indictors adhered to the general criteria concerning temporal and spatial scope, yet, the particular selection criteria were not sufficiently met.

Process	Indicator	Source	Countries included	Years included
Food Processing	Sugar cane supply	FAO balance sheets	157	1970-2013
Food Processing	High Fructose Syrup Production	OECD	22	1980-2015
Food Processing	Vegetable Oil supply	FAO balance sheets	170	1970-2013
Food Processing	Soybean oil supply	FAO balance sheets	165	1990-2015
Food Imports	High Fructose Corn Syrup Imports	OECD	22	1980-2016
Food Imports	Sugar cane Imports	FAO stat	165	1970-2013
Presence of TNCs	% of shares of Coca-Cola, Pepsico, Nestle and Mondeley in the packaged food industry	GMD	46	2000-2016

Table 3.3 Source, years and countries included the variables explored in the third stage of the analysis

Although sugar constitutes an essential ingredient in processed foods, its use is not limited to the food industry. Sugar is employed in the production of alcoholic beverages. Even if alcohol can be considered an unhealthy commodity and its production relate to the opening of trade barriers, this research focuses exclusively on food and the inclusion of this variable would add a different pathway to the study.

The search for vegetable fats led to the examination of vegetable oil supply. This indicator was sourced from the FAO balance sheets and complied with the general criteria. During the assessment of the particular criteria, the use of vegetable oil was not limited to the food industry, since it is used for the production of biofuels and in the pharmaceutical industry. Taking into consideration the disadvantages of this variable, a specific type of vegetable oil was searched. Soybean oil was examined because of its extended use in the food industry as well as its increased production derived from the implementation of agricultural policies since the AoA (Hawkes 2010). Soybean oil supply was also sourced from the FAO balance sheets and adhered to all of the established criteria.

The examination of imports resulted in an assessment of the most imported commodities that are included in processed foods. The OECD database provided information regarding HFCS from 1980 to 2015. In a similar manner to the HFCS production variable, this dataset only included the countries included in this organisation, limiting the spatial scope of this study. Sugar imports were also examined as a possible proxy variable, however, as in the case of sugar supply, the uses of sugar could not be restricted to the food industry. Given the disadvantages of both variables, neither of them were included in the analysis.

During this strategy, the presence of TNFCs was examined by measuring the presence of the four major TNFCs: Pepsico, Coca-Cola, Nestle and Mondely. These four companies control more than half of food processing (including sugar-sweetened beverages) around the world (Hawkes 2005; Schram et al. 2015). The Euromonitor GMD permitted the analysis of the percentage of shares in the food packaging industry owned by these four companies. While this information constitutes an essential tool for the study of TNFCs expansion, the temporal and

geographical scope was not sufficient for this analysis. Because of the limitations of this database, this indicator was excluded from the study.

3.2.1.6 Selected variables

The search for proxy indicators led to the selection of three variables. The selected indicator for describing the rise of food processing is soybean oil supply because, as explained in the previous chapter, it is an essential component of ultra-processed food since it is inexpensive and allows hydrogenation (Watts 1999; Hawkes 2010). Taking into account the characteristics of this commodity, it is possible to associate its supply (at a national level) to the production of ultra-processed food. This indicator was sourced from the FAO statistical database (FAO stat) and reflects the total per capita soybean oil supply taking into account production, imports and exports.

The imports of foods that favoured increased energy consumption are described by the total imports of sugar confectionery. Sugar confectionery was included because it corresponds to a non-essential energy-dense commodity destined only for edible purposes. Moreover, this indicator included several types of sweets –ranging from non-expensive individually packed products to more sophisticated candy types– thus comprehending a broad consumer scope. This indicator was obtained from the FAOstat and provided the total country imports per year.

Considering the scope restrictions of indicators examining the presence of TNFCs, a broad indicator was selected to describe this dimension. Foreign Direct Investment (FDI) inflows were chosen because it was the only indicator that suited

the temporal and spatial scopes. This indicator measures the total foreign capital entries by year for each country and is expressed in millions of dollars.

The compilation of the three databases resulted in the inclusion of 145 countries with a temporal scope of 22 years (1991-2013). The number of time-points was reduced to 11 across the 22 years included to include a greater number of countries into the analysis. Table 2.4 describes the variables selected to describe the three dimensions of change in food systems derived from trade liberalisation.

Dimension	Indicator	Description
Food processing	Soybean oil supply	Calculates the total supply of soybean oil (in kilograms) by adding the total production destined for domestic use to the total imports (minus the exports, and accounting for any increase or decrease in stocks) and then dividing the results by the total population during the reference period
Reduction of trade barriers in energy-dense edible goods	Imports of sugar confectionery	The total value of sugar confectionery imports corresponding to an absolute measure expressed in tonnes per year
Presence of transnational food companies	Foreign direct investment inflows	Indicates the total foreign capital in a given country. FDI is explored as a net value; using total investments per year expressed in millions of US dollars

Table 3.4 Selected indicators to describe the three food system dimensions.

3.2.2 Building the Food Liberalisation Index (FLix)

Once the three proxy variables were selected, they were merged into an index. The process of constructing the index involved three steps: 1) normalising the data by accounting for population growth and reducing the skew 2) transforming each value into a common scale and 3) joining the three values into a composite indicator.

3.2.2.1 Standardising variables

The difference in units of measurement among the three selected indicators required the normalisation of the data, which involved three steps. The first action was dividing each variable by the number of inhabitants of each country for each time-point to account for population growth within the study period. This step was only conducted for sugar confectionery imports and FDI inflows since soybean oil supply were already expressed as a per capita measure.

The second reduced the skewness of the data since the three variables were expressed in different units and scales. This was done by obtaining the logarithmic values of the three variables. The transformation of variables into logarithmic values is a common technique for reducing the distortion of data, mainly when the range of values is extensive or positively skewed. In short, this process corrects values as they approach zero by becoming negative after the transformation (OECD 2008).

The third step involved transforming the three indicators into a common scale. This process was conducted following the methodology proposed and used by the KOF index of globalisation and the Maastricht Globalization Index (Dreher 2006; Martens et al. 2015; Martens et al. 2010). This methodological approach involved converting all three variables into a zero to ten scale, where higher values symbolise a greater degree of liberalisation in each dimension of the food supply chain.

The transformation of the values comprised of three sub-steps. First, to include the whole temporal scope, the values of the eleven-time points were summed and averaged for each country. Secondly, the counties with the highest and lowest values of each variable were identified. Finally, the value of each country was transformed using the following formula :

$$\textit{Index score} = \frac{V1 - Vmin}{Vmin - Vmax} \times 10$$

Where V_1 represents the given value for each country, *Vmin* the minimum value in the corresponding time-point and *Max* the maximum one. The product of the division then was multiplied by ten to obtain a zero to ten scores.

3.2.2.2 Bringing the three measurements together

Once the three indicators were transformed into a common scale, they were merged into a composite measure. The scores of the three dimensions were added and divided by three, giving the three variables the same weight. All variables were given equal importance since there is no evidence to quantify and compare the impact of the three included dimensions at a global level. The result of the sum is the Food Liberalisation Index (FLix), showing which countries have the most and the least liberalised food supply chains from 1991 to 2013.

3.2.3 Group Trajectory Analysis

Trajectory analysis was used to identify countries that followed similar changes in food systems according to the summary indicator and each of the three included dimensions from 1991 to 2013. Group-based trajectory analysis is a type of latent class growth model (LCGM) commonly used to identify groups of individuals that follow similar patterns of change over time (Nagin et al. 2005). This process summarises the distribution of individual differences into a predetermined set of polynomial functions, each corresponding to a trajectory (Andruff et al. 2009).

Generally, trajectory analysis has been used to model change among individuals, however, it has also been used to model area change (Nagin et al. 2016; Jones and Nagin 2013; Jones and Nagin 2007). For example, Riva and Curtis (2012) used trajectory analysis to elicit employment changes across local areas in England.

The analysis was carried out in Stata 14 using the *traj* command. This model required the specification of three main aspects: the probability distribution, the trend shape and the number of trajectories (Nagin 2005). The probability distribution depends on the scale of the variables measured. Since the summary indicator and the individual indicators were considered as continuous variables, a censored normal model distribution was used. The trend shape was selected by analysing the direction of change for each variable. The results showed that changes either occurred stably or increasingly, thus, a linear trend was used in all models. Finally, the number of trajectories for each model was selected by testing the best fit for the data. The Bayesian information criterion (BIC) value was used as a fit index to compare the competing models that included a different number of trajectories (Andruff et al. 2009). Models with the lowest BIC values were considered the best fit.

3.2.4 Linking FLix and trajectories to BMI

3. 2.4.1. BMI data

Male and female BMI data were obtained from a trend analysis developed by the NCD Risk Factor Collaboration (NCD-Risc). The NCD-Risc is a network of health scientists led by the WHO Collaboration Centre on NCD Surveillance and Epidemiology at Imperial College London. The main purpose of this group is to gather and analyse longitudinal data on non-communicable diseases (NCD-Risc 2016).

Trends in BMI were constructed through a pooled analysis of 1698 population-based measurement studies. As a whole, the analysis included height and weight measurements from over 200 countries as well as 19.2 million adult participants (9.9 million men and 9.3 million women) from 1975 to 2014 (NCD-Risc 2016).

To perform the trend analysis countries were grouped into 21 regions according to their geography and income. As a result, trends in mean BMI were calculated as well as the prevalence of BMI categories (viz. underweight, overweight, obesity and morbid obesity). This analysis includes the largest spatial and temporal scope for a BMI dataset. NCD-Risc provides open online access to this trend analysis (NCD-Risc 2016).

3.2.4.2 Testing the associations with BMI through time

Random effects panel regression was used to test the effects of FLix and trajectory groups on BMI. Panel regression is a type of longitudinal data analysis that explores the impacts of explanatory variables on an outcome variable that changes through time. In particular, random effects panel regression examines differences between

and within individual cases. Furthermore, this method can include explanatory variables that are fixed in time as well as explanatory variables that change through time. This last characteristic enables the use of multilevel explanatory variables, which are widely used in economics and social sciences (Gayle and Lambert 2018).

For this analysis, random effects were selected as an analysis method because FLix and trajectory groups are time-fixed variables. Therefore, random effects panel regression allows estimating id changes in BMI are correlated with FLix and trajectory groups as well as the extent and direction of such relationship. The analysis was carried out in Stata 14 using the *xtreg* command.

The Breusch-Pagan Lagrange multiplier (LM) test was used to assess the fitness of this statistical approach. LM test is a formalist that allows rejecting the null hypothesis that Variance(u)=0.

3.3 Results

3.3.1 About the indicators

The final sample included 145 countries and comprised 22 years divided into bi-annual intervals. Due to limited availability of data, countries that did not exist before 1991 were excluded from the analysis (e.g. Montenegro, Serbia, East Timor, Palau and Kosovo), as well countries undergoing totalitarian or communist regimes (e.g. Cuba and North Korea). Moreover, Hong Kong, mainland China and Macao were grouped into a single country, to comply with the country divisions of all indicators.

Soybean oil supply

During the 22 years examined, per capita soybean oil supply increased 21 per cent (from 2.4 to 2.9 kilograms). Although this rise might not seem significant, it represents an additional 5,304 kilocalories per person per annum. Differences among countries were assessed using the World Bank income division for countries. The results showed that low-income countries had the largest increase percentage (33.4 per cent), tripling their size during the examined period. In contrast, high-income countries had the lowest increase (3.7 per cent).

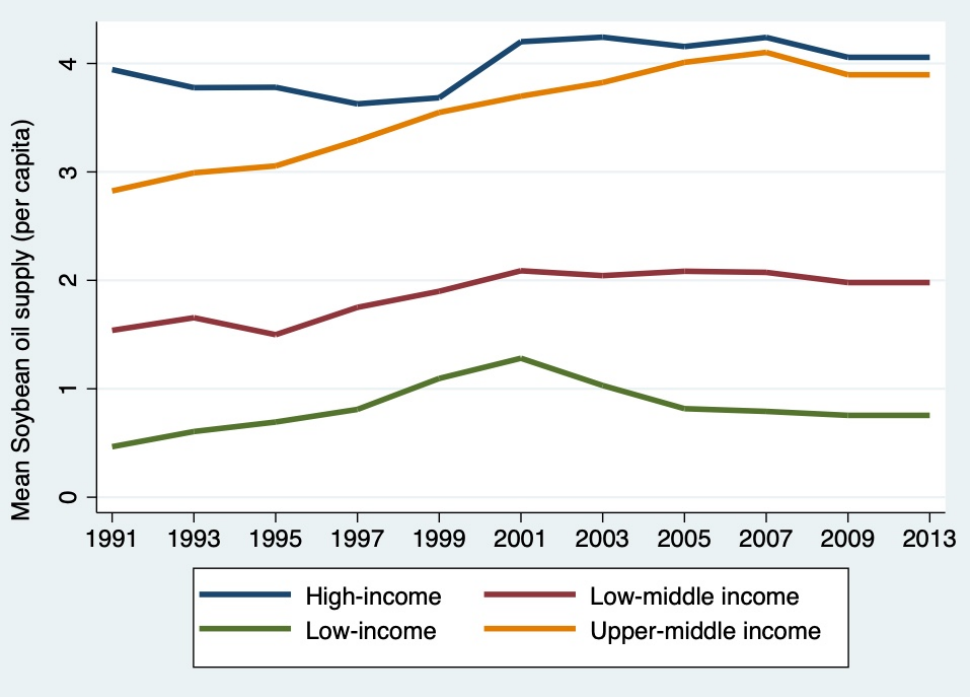

Figure 3.2 Changes in per capita soybean oil supply from 1991 to 2013 according to World Bank income groupings

Figure 3.2 shows changes in per capita soybean oil supply according to income groupings. At a global level, the rise of soybean oil availability was, in a great measure, triggered by the opening of trade barriers. Following this line of thought, the opening of global markets for agricultural products incentivised countries to increase oil crop production through the implementation of agricultural policies

(Watts 1999; Clark et al. 2012). Such policies bolstered a major private investment in oil processing, bestowing control of supply chains to transnational food companies (Hawkes et al. 2013). At the same time, the liberalisation of agricultural trade also permitted the reduction of trade tariffs for oil products, making soybean oil widely accessible and affordable at a global scale (Hawkes 2010; Watts 1999; Martinez-Steele et al. 2017; Martinez-Steele et al. 2016 Gunstone 2011; Clark et al. 2012).

Sugar confectionery imports

On average, sugar confectionery imports per capita doubled from 1991 to 2013, increasing from 59 to 130 kilograms per capita. According to income groupings, low-income countries showed the most significant increase percentage during the explored period (796.2 per cent). Figure 3.3 shows changes in sugar confectionery imports from 1991 to 2013.

For low and middle-income countries, the most acute increase started after 1995. These results further support the idea that since the implementation of the AoA in 1994, trade tariffs and barriers on edible goods have decreased. While increases in imports and exports affect many consumable products, the central relationship towards obesity connects to the type of food that is imported (Hawkes et al. 2010; Friel et al. 2015). In the case of low and middle-income countries, the opening of trade barriers has been considered a strategy for economic growth. However, many countries have increased their imports of energy-dense foods, disregarding their harmful effects on health (Ruckert et al. 2018; Swinburn et al. 2019; Barlow et al. 2017).

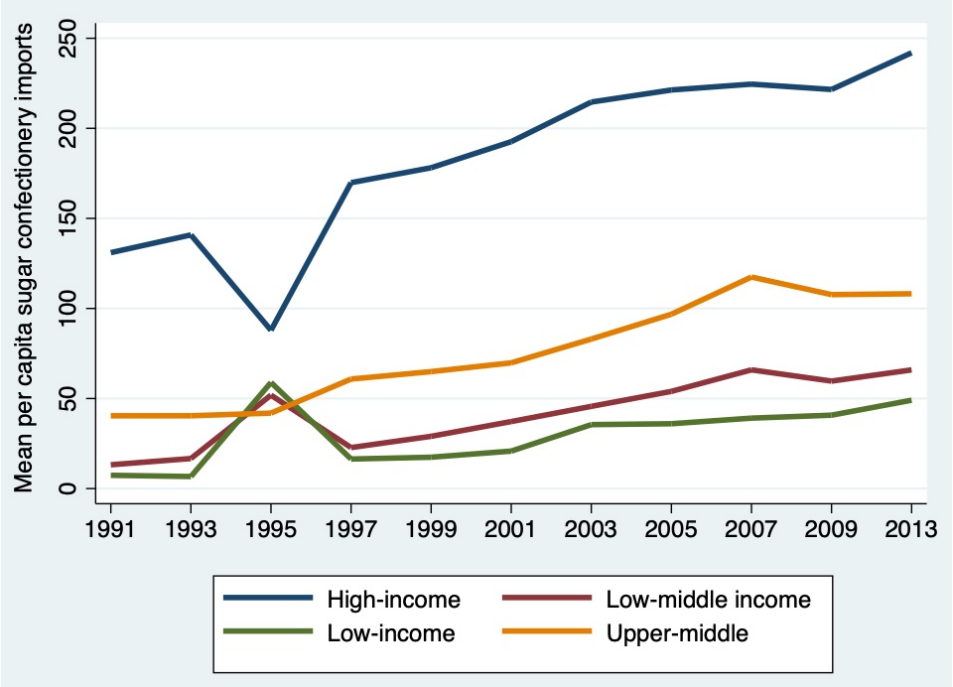

Figure 3.3 Changes in per capita sugar confectionery imports from 1991 to 2013 according to World Bank income groupings

Foreign Direct Investment

For the 145 explored countries, FDI inflows per capita increased more than ten times from 1991 to 2013. Low-income countries had the highest increase percentage (308.1 per cent) during the study period. In contrast, although high-income countries showed the highest FDI per capita values throughout the years, they showed the smallest increase percentage. Figure 3.4 describes the changes in FDI per capita inflows according to the World Bank income groupings.

The trends in FDI inflows suggest that the presence of transnational companies has increased globally since the opening of trade barriers. The increase in all countries is particularly noticeable since 1995, corresponding to the opening of trade barriers in many countries. The opening of investment barriers has enabled the presence of transnational companies in food production, processing and retailing. The rising levels of FDI in low-income countries suggest the promotion of FDI as a common

mechanism to increase their capital inflows. The increasing levels of foreign capital in these countries may also be associated with the influence of transnational food companies in local policy spaces, enabling their rapid expansion and control (Labonté et al. 2018; Kickbusch et al. 2016; Stuckler et al. 2012; Ruckert et al. 2018).

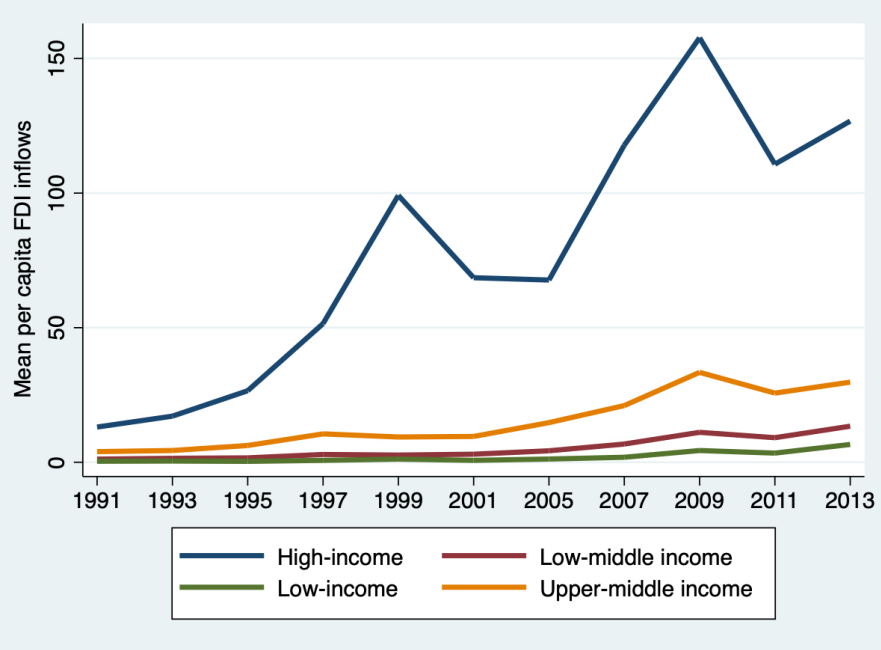

Figure 3.4. Changes in per capita FDI inflows from 1991 to 2013 according to World Bank income groupings

The previous descriptive statistics explored how the three dimensions varied through time, according to income groups. However, these groupings are not sufficient to identify countries with the same courses of change. Therefore, group-based trajectory modelling was used to cluster countries according to the changes in each dimension.

3.3.. About FLix

As mentioned in section 3.2.2., the purpose of FLix is to combine the three indicators into a single measure that can evaluate the extent of liberalisation of food systems since the opening of global trade barriers. FLix includes 145 counties and provides a 0 to 10 score, where 10 signifies the highest level of liberalisation and 0 the lowest. Figure 3.5 shows a map of the distribution on FLix scores in the 145 included countries[3].

Table 3.5 presents the average FLix values according to the World Bank's income groups and geographical regions. FLix values followed a clear social gradient according to World Bank income groupings. While countries in the high-income group had the highest mean FLix values (7.82), countries in the low-income group had the lowest(4.27). According to Geographical Regions, North America had the highest mean FLix values (7.66), followed by Latin America and the Caribbean (7.14). The lowest average FLix values were located in South Asia (3.4) and sub-Saharan Africa (4.68)

Income Group	**Mean FLix value**	**Geographical Region**	**Mean FLix value**
Low-income	4.27	East Asia and the Pacific	6.01
Low-middle income	5.05	Europe and Central Asia	6.97
High-middle income	6.52	Latin America and the Caribbean	7.14
High-income	7.82	Middle-East and North Africa	6.51
		North America	7.66
		South Asia	3.40
		Sub -Saharian Africa	4.68

Table 3.5. Average values of FLix according to income groups and geographical region

[3] A complete list of Flix values is included in Appendix 1

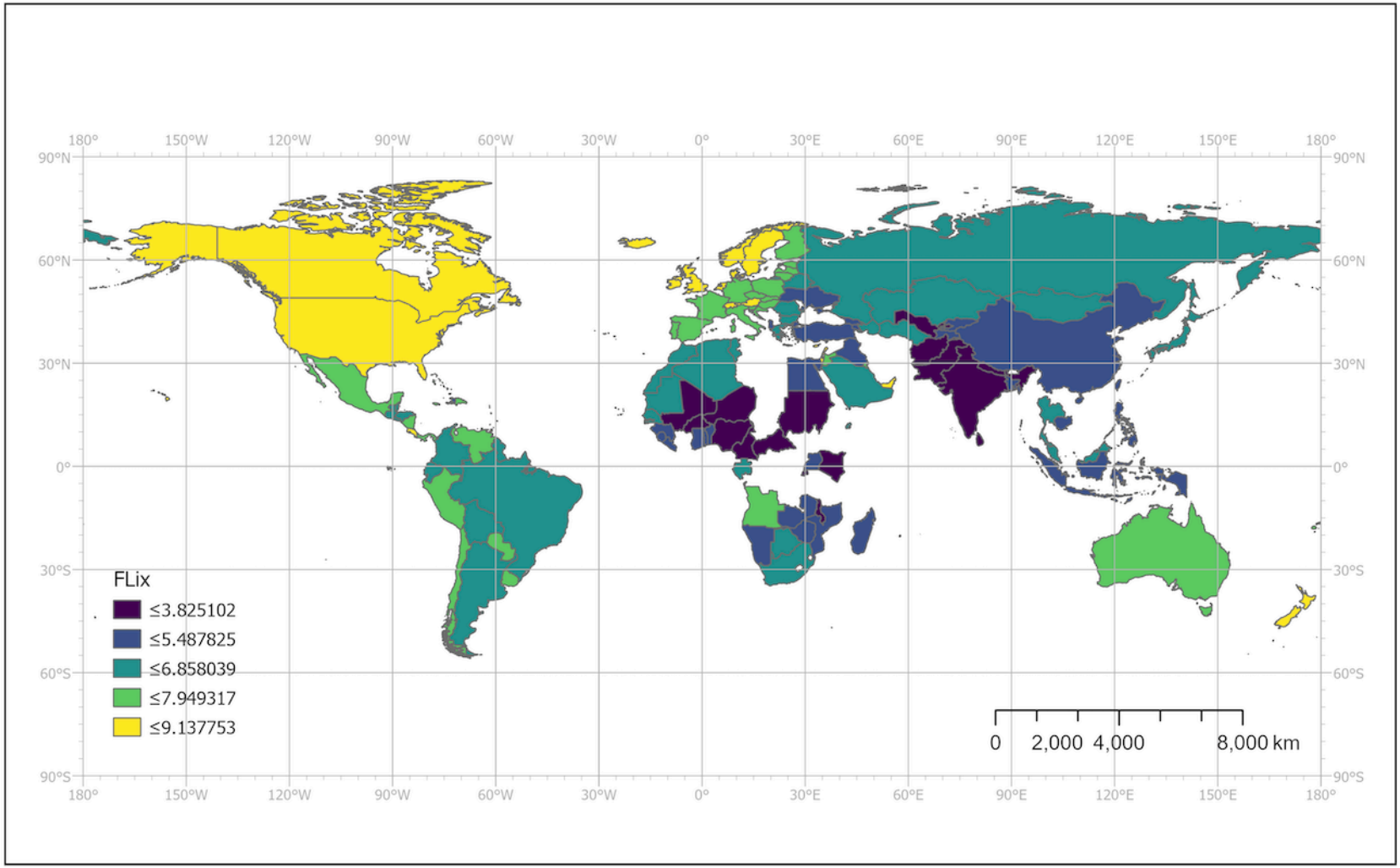

Figure 3.5. Distribution of FLix scores in the 145 included countries

3.3.3. Identifying trajectories

Trajectories of the three dimensions were identified using group trajectory modelling. This statistical approach allowed countries with similar changes over the assessed period to be classified into separate groups. Table 3.6 presents the characteristics of each of the trajectory groups including label, description and number of included countries in each trajectory group. The following sub-sections will explain each one of the trajectory groups according to the indicators assessed.

Trajectory groups		**Number of countries**
Per capita soybean oil supply		
Label	Description	
1 Low increase from lowest values	Slow but steady growth with shallow starting supply values	20
2 Slight Decrease	Slight decrease with medium supply values	34
3 Acute increase low to medium	Acute increase from medium to high values	45
4 Remains high throughout	Remains with constant high supply	46
Per capita sugar confectionery imports		
Label	Description	
1 Low increase from lowest values	Steady growth with very low imports at the beginning	6
2 Acute increase low to medium	Acute increase from low to medium values	37
3 Acute increase low to medium	High starting values and marked rise	49
4 Remains high throughout	High values with a steady low increase	53

Table 3.6 Trajectory group descriptions and frequencies for soybean oil production, sugar confectionery imports, and FDI

Per capita FDI inflows		
Label	Description	
1 Acute increase low to medium	Acute increase from low to medium FDI inflows	28
2 Increase within medium values	Steady increase within average FDI inflows	42
3 Acute increase medium to high	Acute increase from medium to very high inflows	41
4 Remains high throughout the study period	High values with a steady low increase	34

Table 3.6 continued

Soybean oil

The analysis of soybean oil supply elicited four distinct trajectories (Fig 3.6). For countries in trajectory group 1, soybean oil supply showed the lowest values but increased positively throughout time. This group included mostly low-income African countries such as Sudan, Kenya and Mali. The countries covered in trajectory group 2 had a slight decrease in soybean oil supply from 1991 to 2013, indicating a reduction in processed food production. This group included mostly high and middle-income countries such as Saudi Arabia, Indonesia, Thailand, Finland and Russia. In contrast, for countries in trajectory group 3, soybean oil supply showed a steady and acute increase. This group includes countries from all income groups, indicating that the production of processed food has increased throughout different income levels.

Finally, countries in trajectory group 4 had the highest soybean oil supply throughout the study period, yet the increase was lower compared to those in trajectory group

3. This group included, in the vast majority, high and high middle-income countries, namely Norway, Canada, New Zealand, Spain and South Korea.

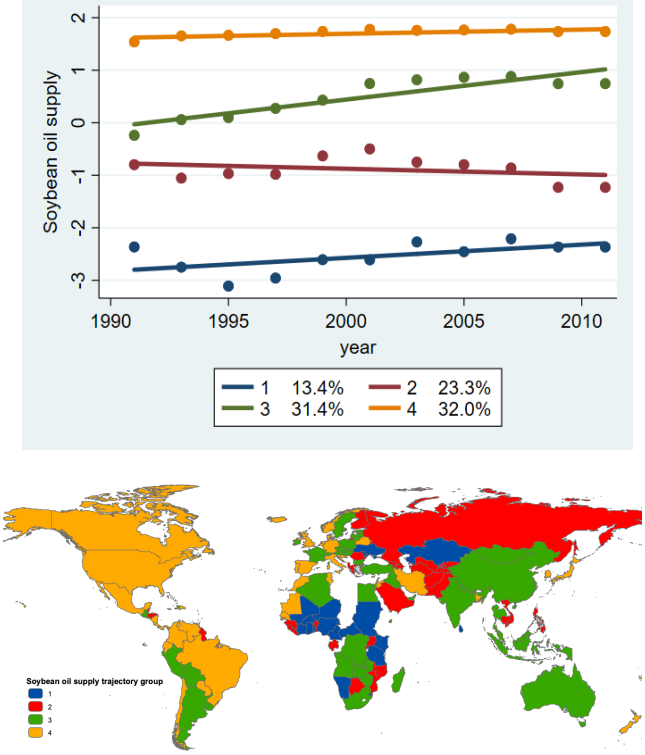

Figure 3.6. Estimated trajectory groups for soybean oil supply (per capita) from 1991-2013. Geographical distribution of trajectory groups is shown on the map. Source: FAO STAT

Sugar confectionery

Similar to soybean oil supply, four trajectory groups were obtained from the analysis of sugar confectionery imports (Fig 3.7). Countries included in trajectory group 1 experienced a slow but steady increase in imports during the study period. This group comprised countries from all income groups, however, mainly from low income and low-middle income groups.

For countries in trajectory group 2, sugar imports had an evident and pronounced increase since 1991. This group included a mix of countries from the high-middle

and low-middle income groups, for instance, Bangladesh, China, India, Iran, Nigeria and Pakistan. Likewise, countries in trajectory group 3 had an evident increase throughout the 22 years, reaching considerably high imports per capita during the last time points. This group is mainly composed of countries in the middle-income groups (e.g. Greece, Georgia and Mexico). Finally, for countries in trajectory group 4, imports were the highest throughout the assessed time and remained that way throughout the study period. Unsurprisingly, this group included high and middle-income countries, for example, the United States, Canada, the United Kingdom and Austria.

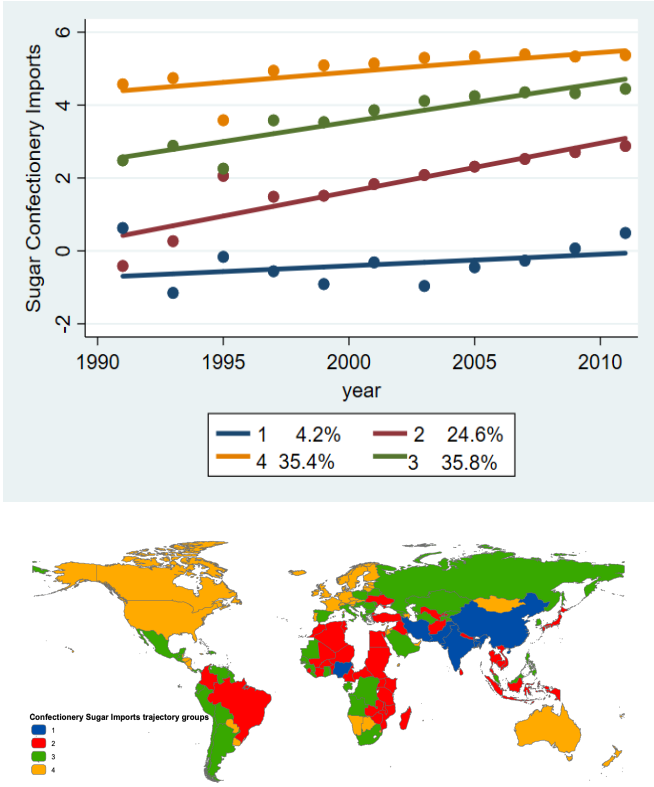

Figure 3.7. Estimated trajectory groups for sugar confectionery imports (per capita) from 1991-2013. Geographical distribution of trajectory groups is shown on the map. Source: FAO STAT

FDI inflows

When the analysis was repeated for FDI inflows, four trajectory groups were also found as the best fitting solution (Fig 3.8). While countries in trajectory group 1 had the lowest FDI values throughout the study period, their increase was markedly acute, indicating fast incorporation of FDI investment since the opening of trade barriers. Countries in this trajectory group were mostly low and middle income, for instance, Cameroon, Togo and Zimbabwe.

For countries in trajectory group 2, the increase of FDI inflows was steady but less acute than for those in group 1. This group included a combination of countries of low and middle-income countries such as Russia, South Africa, Cambodia and China. Similar to countries in trajectory group 2, countries trajectory group 3 had a steady positive slope, experimenting high FDI inflows throughout the study period. Most of the countries in this group were high middle-income countries like Uruguay, Croatia, Korea, Jordan and Panama.

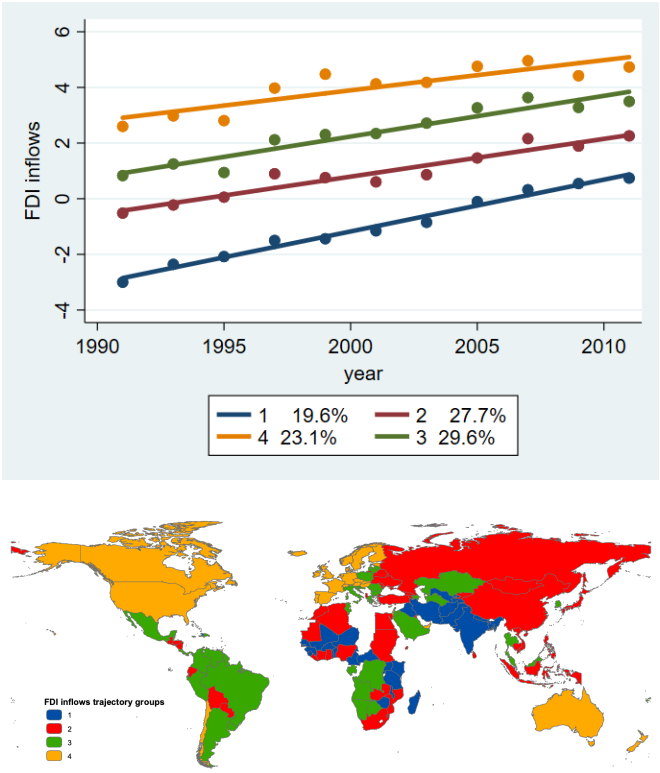

Figure 3.8. Estimated trajectory groups for FDI inflows (per capita) from 1991-2013. Geographical distribution of trajectory groups is shown on the map. Source: FAO STAT

Following the two previous analyses, trajectory group 4 had the highest FDI inflows during the 22 years explored. This group presented a slow and steady increase of FDI inflows during the study period, indicating a small amount of change. These countries were mostly high-income countries (e.g. Switzerland, Sweden, Australia and Denmark).

3.3.4 Relationship between FLix, trajectory groups and BMI change

As mentioned in section 3.2.4.2, random effects panel regression was used to test the relationship between FLix and trajectory groups on BMI change from 1991 to 2013. Models were run separately for female and male BMI change. While FLix was used as a continuous variable, trajectory groups were used as categorical variables.

Table 3.7 provides a summary of the panel regression results for female and male BMI. In the case of FLix, findings show a statistically significant (at the $p.<.05$ level) correlation between changes in BMI and FLix. The panel regression shows that for every unit increase of FLix, BMI increased 0.831 for females and 0.818 for males. These results evidence that the liberalisation of food systems holds a strong association with the rise of BMI levels in both males and females.

In both models, trajectory group 4 was used as a base category since it showed constant high values throughout the three processes. Unlike FLix, the results from the regression did not show statistically significant results.

	Female BMI	Male BMI
FLix	0.831*	0.818**
	[0.103,1.558]	[0.196,1.440]
FDI Trajectory Group		
1	0.183	-0.862
	[-1.771,2.137]	[-2.532,0.807]
2	1.091	-0.452
	[-0.298,2.481]	[-1.639,0.736]
3	0.958	-0.348
	[-0.044,1.959]	[-1.204,0.508]
4 (reference group)		
Sugar Confectionery Imports Trajectory Group		
1	-0.470	0.216
	[-2.770,1.830]	[-1.750,2.182]
2	-0.535	-0.134
	[-1.952,0.883]	[-1.345,1.078]
3	-0.375	0.259
	[-1.222,0.472]	[-0.465,0.983]
4 (reference group)		
Soybean oil supply Trajectory Group		
1	0.849	0.582
	[-0.962,2.660]	[-0.966,2.130]
2	0.571	0.399
	[-0.617,1.759]	[-0.616,1.414]
3	0.115	0.150
	[-0.713,0.943]	[-0.558,0.857]
4 (reference group)		

Table 3.7.Random Effects panel regression results testing the relationship between male and female BMI change (from 1991 to 2013), FLix and trajectory groups. * p<0.05, **p<0.01, *** p<0.001

Interestingly, the regression results varied between male and female. For example, in FDI trajectory groups had a positive effect on females, yet, the effect for males was negative. Contrastingly, for sugar confectionery imports the effect was mainly

negative for females and positive for males. Moreover, gender differences were also visible in the larger effect of soybean oil supply in female BMI compared to males.

Another salient aspect of the results is the high regression coefficients of trajectory group 1 when assessing soybean oil supply. These results could indicate a potentially significant impact of processed foods in the increase of BMI in low-income countries. The lack of statistically significant results when analysing the effect of trajectory groups on BMI further supports the idea that trade liberalisation on food systems is more effectively analysed as a whole. Thus, the use of a composite indicator as FLix proves to be a useful tool for understanding food liberalisation effects on health.

3.4. Summary

This chapter examined how trade liberalisation influences food systems at a global level by examining changes between 1991 and 2013 for 145 countries. The analysis of the three dimensions of change in food systems enabled the performance of two types of analyses. The first analysis included the construction of a composite indicator to measure the degree of liberalisation of food systems since the opening of trade barriers. The second analysis included an individual exploration of changes for each dimension through group trajectory analysis, which allowed countries to be grouped according to changes in their food systems

Findings from the first approach showed that countries that exhibited the most change were the ones that were not open to trade before the 1990s. These results suggest that trade liberalisation accelerated changes in food systems, enabling an abrupt increase in obesity levels. The construction of group trajectories enabled to

identify that LMICs have undergone the most changes in their food systems. Such results suggest that trade liberalisation has impacted the most LMICs, affecting all parts of their food supply chains, thus, accelerating their nutrition transition. The next chapter will discuss the impact of trade liberalisation in retailing and deprivation in Mexico City.

4. Geography of Food Retailing in Mexico City

4.1 Introduction

Chapter 3 showed that food supply chains in LMICs have undergone the most shifts since the opening of trade and investment barriers. These changes proved to have an impact on dietary patterns and obesity prevalence (Hawkes 2010, Hawkes 2004). As explained in Chapter 2, the opening of trade barriers in Mexico took place in the early 1990s and supported the expansion of TNCs in all parts of the food supply chain (Hawkes et al. 2004; Dussel 2000).

This chapter aims to explore the relationship between food outlet distribution and deprivation. The importance of assessing this association links to the understanding of unequal access to food in Mexico City. Few studies have evaluated the relationship between food-outlet density and deprivation in Mexico, as well as their change over time (Gasca and Torres 2014; Chavez 2002; Duhau and Giglia 2007). This chapter adds to current evidence by exploring the relationship between food outlet density and deprivation in Mexico City. Furthermore, this chapter includes an assessment of change in supermarket density in Mexico City from before and after the implementation of NAFTA.

The research questions are the following:

- To what extent is food outlet density associated with area-level deprivation in Mexico City?
- Do associations vary according to food retailer type?
- How has supermarket density in Mexico City changed from 1990 to 2015?

- How do these changes vary according to area-level deprivation?

4.2 Analysis plan

This chapter includes cross-sectional and longitudinal analyses. The cross-sectional study explores the relationship between deprivation and food-outlet densities (including supermarkets, convenience stores, marketplaces and street markets). The second analysis focuses on supermarkets, looking into the relationship between supermarket density and deprivation between 1990 and 2015. The next subsections explain how data was collected (4.2.1) transformed into a density measure 4.2.2) and compared to area-level deprivation (4.3)

4.2.1 Data sources

Area-level densities of food retailers were calculated using spatial information from two sources: the Mexican Directory of Economic Units (DENUE) and the Mexico City Data Laboratory. DENUE is a spatial directory compiled by the Mexican Institute of Statistics and Geography and gathers spatial information of all tertiary activities in Mexico since 2015. Spatial data were obtained for 2015. The dataset includes a total of 291 supermarkets and 1720 convenience stores.

The Mexico City Data Laboratory is an online data repository regulated by Mexico City's government. The purpose of this initiative is to make data on Mexico City publicly available for the development of citizen-led projects (Laboratorio de la Ciudad 2018). This analysis included 1720 street markets and 328 marketplaces.

Table 4.1 presents the definitions of the four types of outlets used in this study. On the one hand, the definitions of convenience-store and supermarket correspond to

the ones used by DENUE to construct and classify food retailers. On the other hand, the definitions of marketplace and street market belong to the ones used by the Mexican Ministry of Economic Development (SEDECO).

Type of retailer	Definition
Convenience Store	Self-service store with at most two cash registers. This store offers a selection of food and basic goods, however, does not provide fresh meat or more than ten types of fruit and vegetables
Supermarket	Self-service store with four or more cash registers. Includes a full service of butcher, deli or bakery. Moreover, provides fresh meat and dairy as well as more than 20 varieties of fruit and vegetables.
Marketplace	A group of vendors settled in a government-owned building with individuals leased stalls. They offer a vast variety of basic goods such as fruits, vegetables, pulses, meat and dairy. Also, many of them offer prepared meals, toys, traditional confectionery and flowers.
Street market or Tianguis	An open-aired itinerant market that includes individual stalls. They offer various goods such as fruits, vegetables, meat, fish, dried food, confectionery, clothing as well as street-food. Some of these retailers are regulated by the `Mexican Ministry of Economic Development, but the vast majority operate illegally.

Table 4.1 Definitions of food retailers. Source: DENUE 2015 and SEDECO 2017

4.2.2 Calculating densities

Based on its capacity of measuring density and proximity at the same time, Kernel Density Estimation (KDE) was selected as the density calculation method (Richardson et al. 2015; Shortt et al. 2015; Charriere et al. 2010). The KDE process involves dividing a given area into a pre-established number of cells and then drawing a circular radius around each cell to calculate the density value of each cell. The density value of each cell is determined by giving a higher value to points closer to the centre of the cell, which decreases as the distance increases (Anderson, 2009). The use of KDE, therefore, provides an outlet density measure based on the proximity of all outlets within.

Following this methodological approach, Mexico City was divided into a 100 by 100-meters grid and 1000-meter search radius was used around the centre of each cell. This search radius was chosen because it represents a plausible walking distance; corresponding to an immediate food environment (Apparicio et al. 2007; Chariere et a.l 2008). Sensitivity tests using 800-meter and 1200-meter radius were performed, showing minimal variation in the outcomes.

An area-level density measure was constructed in three stages. Firstly, a density measure was built at the smallest geographical scale possible. Therefore, Basic Geo-Statistical Areas (AGEBs) were taken as geographic units of analysis. AGEBs are the smallest spatial units for urban areas in Mexico and comprise a group of clearly delimited blocks with homogenous land use (INEGI 2015). Although they do not have a specific area or population, AGEBs delimit urban areas with similar socio-economical and physical characteristics (CONAPO 2011). In Mexico City, the average size of an AGEB is 0.32 square kilometres (with a standard deviation of

0.35), and the mean population is 3,701 inhabitants (with a standard deviation of 2182.6).

Secondly, KDE rasters were computed for each type of outlet (i.e. supermarkets, convenience stores, marketplaces and street markets) using Arc GIS. Each AGEB was assigned a value based on the location of its centroid. Taking into consideration the population in this analysis, population-weighted outlet densities were calculated for each one of the AGEBs included. This process was carried out by dividing the KDE value of each AGEB by its population according to the 2015 census data.

Thirdly, considering that the number of street markets and convenience stores is much more significant than the number of supermarkets and marketplaces, population-weighted values were categorised into five groups. This classification allowed the identification of areas with a high density of each outlet, regardless of the other types of outlets. Since more than one-fifth of the AGEBs had zero density values, zero was the first density group. Then, to obtain equivalent groups, the remaining areas were then divided into density quartiles.

4.2.3 Including a Deprivation Measure

Taking into account the chosen geographical scale, an indicator of socioeconomic deprivation at an AGEB-level was compiled. The most comprehensive indicator of deprivation in Mexico is the Index of Marginalisation; designed and published by the Mexican Population Council (CONAPO).

The Index of Marginalisation uses principal component analysis to summarise nine measures concerning education, household characteristics, population distribution and income (Cortes and Vargas 2011). Several Mexican governmental agencies use

this index to identify and prioritise disadvantaged areas (Almejo-Hernández et al. 2013).

This Index was developed in 1990 and has since been calculated on a five-year basis. This composite measure is generally scored in five categories, ranging from very high to very low. Nevertheless, for this analysis, the continuous measure was used to build deprivation quintiles. Deprivation quintiles were constructed for each one of the included time points in Stata 14.

4.2.4 Modelling the relationship between outlet density and deprivation

The relationship between outlet density and deprivation was tested through two approaches. First, outlet density ratios between the first and the fifth deprivation quintiles were calculated to describe the disparities in outlet distribution. High ratio values (larger than 1) correspond to a greater density of outlets in more affluent areas, while low ratio values (lower than 1) indicate a major concentration of outlets in more deprived areas.

Second, the direction and extent of the relationship between outlet density and deprivation were calculated using Pearson correlation. Pearson correlation is a method that measure a linear correlation between two variables (Kohler and Kreuter 2012). The coefficient of the correlation can be defined as the covariance of the relationship between the two variables, divided by the standard deviation (Tarling 2009).

4.2.5 Construction of a longitudinal and spatial database

It was possible to build a longitudinal database of chain supermarkets in Mexico City from 1990 to 2015 using information obtained from three supermarket directories. Each one of the directories included the addresses and opening dates of chain supermarkets in Mexico City. Figure 4.1 shows a flow chart of the construction process of the longitudinal database.

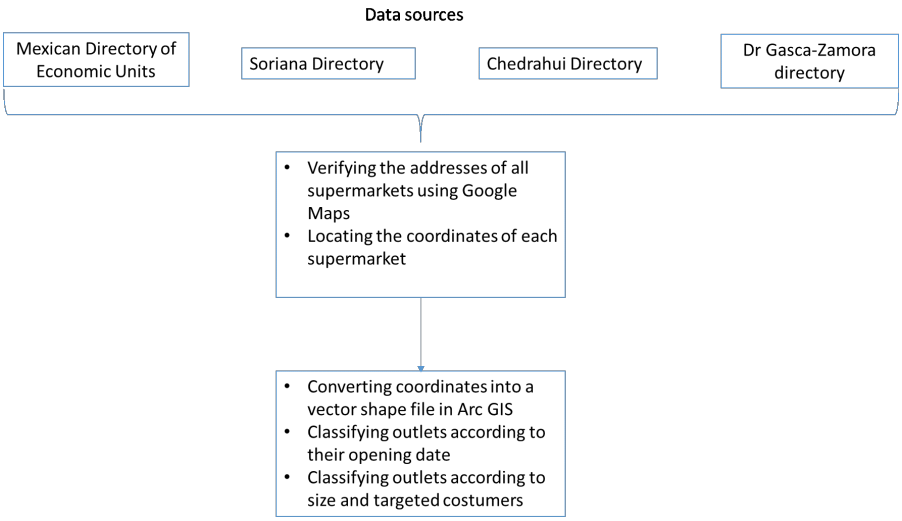

Figure 4.1 Flow chart describing the steps included for the construction of a longitudinal supermarket dataset in Mexico City

As mentioned in Chapter 2, the supermarket sector in Mexico City is controlled by four leading companies: Wal-mart, Soriana, Chedrahui and Comercial Mexicana. These retailers control 80 per cent of supermarkets in Mexico City, from which Wal-mart owns 72 per cent of them.

Gasca-Zamora (2014) built a directory that includes all supermarkets corresponding to Wal-mart and Comercial Mexicana. Gasca-Zamora compiled this directory using

the annual reports published by the Mexican Association of Self Service and Department Stores (ANTAD). ANTAD has released reports annually since 1983 and is solely available for members of the association –formed by 104 major retailing chains. The author provided this directory personally. The head offices of the two remaining companies (Soriana and Chedrahui) provided the addresses and opening dates of all their outlets in Mexico City. Both companies generously sourced the data after filing a formal request.

After compiling the addresses of all of the supermarkets, locations were verified using Google Maps Street View. This process consisted of individually searching for each outlet in Google Maps. Then, the exact coordinates were obtained for each outlet using Google Maps Street View. The coordinates were then transferred into Arc GIS 15 and converted into a vector shapefile. The obtained outlets were complimented with spatial data from the DENUE for the last time point.

The next step consisted of classifying outlets according to their opening date in five-year intervals from 1990 to 2015. These intervals correspond to the available census data with which it was contrasted. To differentiate the supermarkets included according to size and product-availability, outlets were categorised according to the supermarket classification proposed by Gasca and Torres (2014). This system of classification consists of five classes of supermarkets: bodegas, limited-selection supermarkets, supermarkets, hypermarkets and wholesale clubs (Table 4.2). Besides allowing differentiation between size and product-availability of supermarkets, this categorisation also enables the targeted costumers for each type of outlet to be distinguished.

Supermarket Category	Description
Bodega	Self-service stores no larger than 2,000m^2 These stores are located in low-income peri-urban areas and mainly sell discounted non-perishable food staples
Limited Selection	Self-service stores ranging from 1,000 to 2,500m^2. They are destined to high and middle-income urban populations. They offer a limited selection of fresh and packaged products, including a vast range of luxury national and imported goods
Standard Supermarket	Self-service stores are no larger than 3,000 m^2. They offer a vast array of fresh produce, packaged food and baked goods. They often offer a limited selection of household goods and hardware supplies
Hypermarket	Self-service stores with a surface lager than 6,000 m^2. They offer a large variety of goods including fresh produce, packaged food, electronic devices and clothing.
Wholesale club	Self-service stores with a surface ranging from 6,000 to 10,00 m^2. They offer fresh and packaged food in wholesale quantities. Moreover, they also sell a large variety of items such as house furniture, bed linen, tableware and clothing. They require a membership.

Table 4.2. Supermarket Categorisation and characteristics. Adapted from Gasca and Torres (2014)

4.2.6 Calculating supermarket densities

Following the methodological approach of the previous section, KDE was used to calculate supermarket density. KDE rasters were calculated in ArcGIS for each type of outlet at each one of the six time points. A KDE value was attributed to each AGEB, using the location of their centroid. Due to changes in AGEB boundaries in Mexico City since 1990, this analysis only takes into account the AGEBs existing throughout the period studied, thus exploring the difference in a total of 2259 areas.

The KDE value of each AGEB was divided by the population of each AGEB during each of the years examined to account for population change during the study period. The population-weighted outlet density values were assorted into four groups. Since more than 30 per cent of the AGEBs had a zero-density amount since the first assessed time point, the first group included all zero KDE values. The remaining values were then divided into density-quartiles to have an equivalent measure to the zero values from the first time point.

The number of limited section outlets, hypermarkets and wholesale clubs was much smaller compared to the other food retailers -the five supermarket categories. to provide a more consistent sample, the five types of supermarkets were summarised into three groups according to their size and products offered. The groupings are as follows:

- Group 1: Bodegas
- Group 2: Limited selection and supermarkets
- Group 3: Hypermarkets and wholesale clubs

4.2.7 Changes in supermarket density between 1990 and 2015 according to deprivation

Differences in supermarket density according to area-level deprivation were tested using descriptive statistics and a series of analyses of variances (ANOVA). Descriptive statistics show the density differences between each supermarket category, as well as the change over time.

To test changes in supermarket distribution within each year, ANOVA tests were calculated at each time point for the three supermarket categories. ANOVA was used since it is generally used to test the variance of categorical independent variables (Tarling 2009). For this analysis area-level deprivation is the control variable and the results from the ANOVA represent the variation of outlet densities according to deprivation.

4.3 Results

4.3.1 Food outlets in Mexico City

The geo-referencing of the food outlets showed that convenience stores had the highest number of outlets per million (193.2 outlets per million inhabitants), followed by street markets (135.9). Marketplaces and supermarkets had lower values, with 36.8 and 35.9 outlets per million people, respectively. Figures 4.2, 4.3, 4.4 and 4.5 show the distribution of the four types of outlets in Mexico City.

As described in Chapter 2, the abundance of convenience stores and street markets is recent. Although their expansion may link to various factors such as population growth and urbanisation, their increase is connected to the opening of trade and investment barriers.

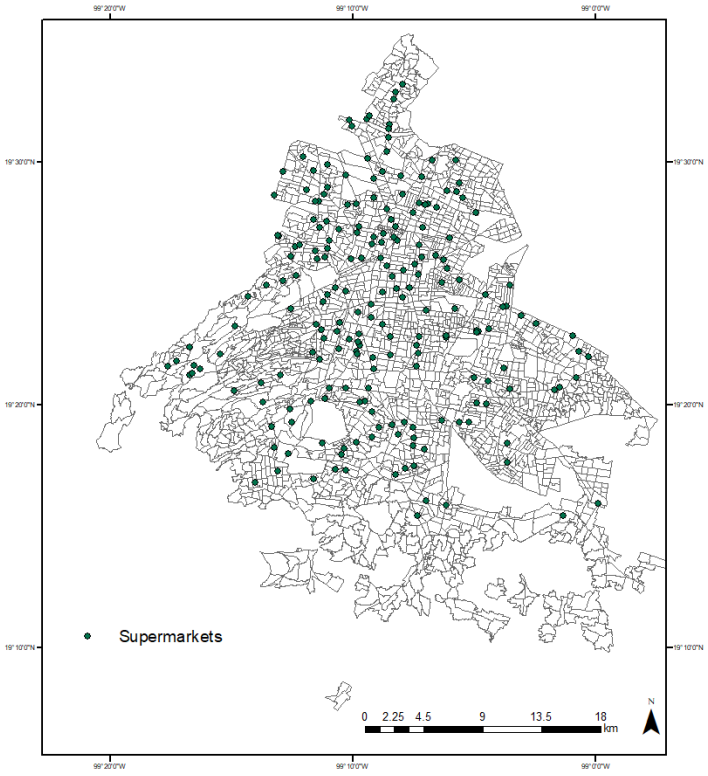

Figure 4.2 Distribution of supermarkets in Mexico City in 2015. Source: Denue 2015

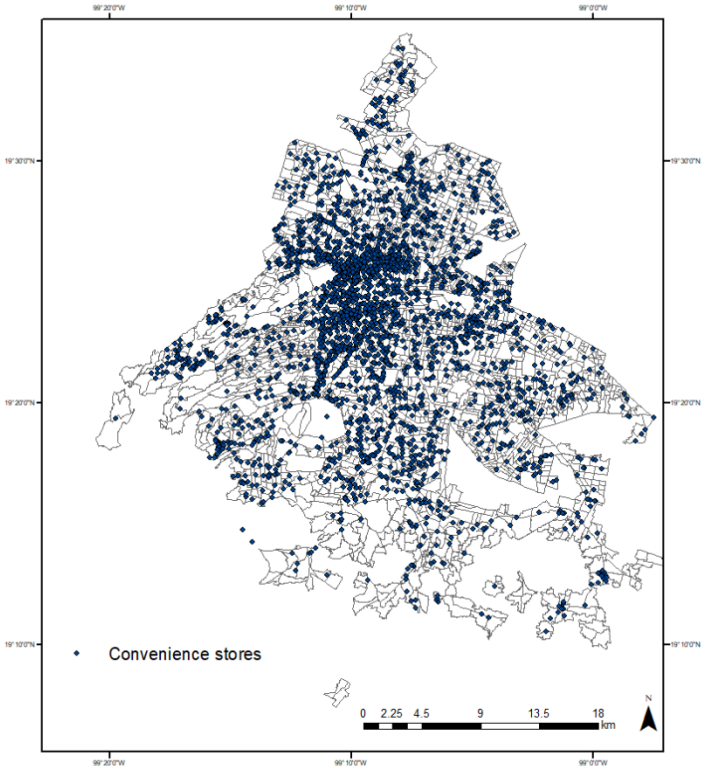

Figure 4.3. Distribution of convenience stores in Mexico City in 2015. Source: DENUE 2019

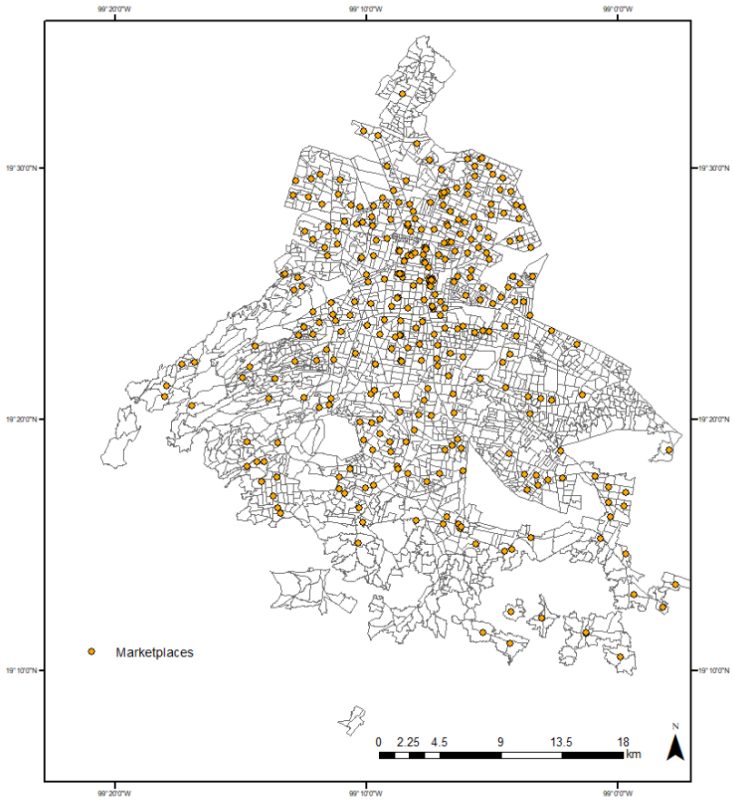

Figure 4.4. Distribution of marketplaces in Mexico City in 2015. Source: Laboratorio de la Ciudad 2016

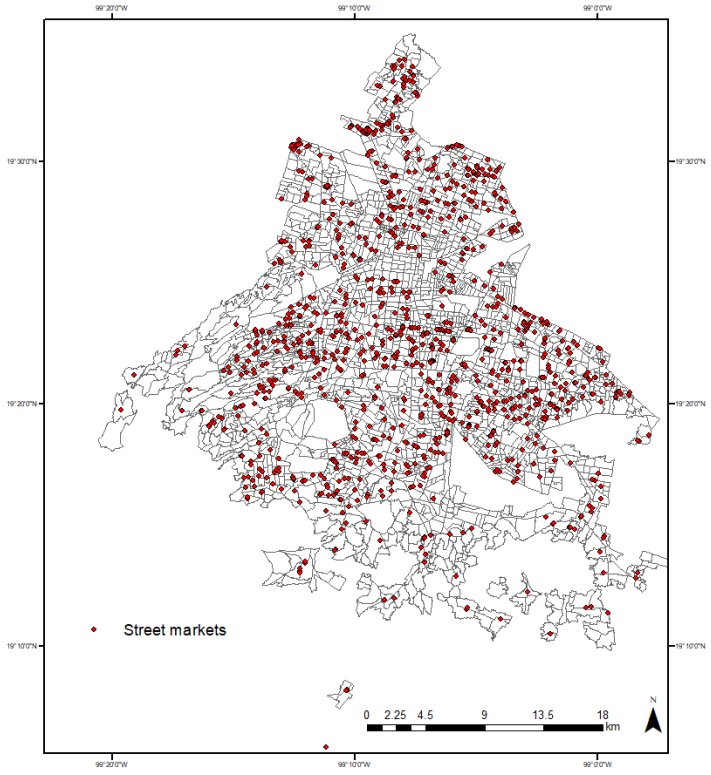

Figure 4.5 Distribution of street markets in Mexico City in 2015. Source: Laboratorio de la Ciudad 2016

4.3.2 Outlet densities and area-level deprivation

The relationship between food outlet density and area-level deprivation was assessed separately for the four types of food outlets (i.e. supermarkets, convenience stores, marketplaces and street markets). Table 4.3 shows the mean outlet densities, according to deprivation quintiles for the four outlet categories. This table also includes a column named "Q1: Q5", indicating the ratio between the least deprived and the most deprived quintiles. To express the direction and strength of the relationship between outlet density and deprivation, this table includes the coefficients of Pearson correlation for each outlet category.

	Deprivation Quintile							
Type of outlet	Q1 Least deprived	Q2	Q3	Q4	Q5 Most deprived	Q1: Q5	Pearson correlation	p
Supermarkets	2.386	2.080	1.979	1.556	0.706	3.379	-0.187	0.000
								0.000
Convenience stores	3.036	2.700	2.408	1.877	0.814	3.730	-0.554	0.000
								0.000
Marketplaces	2.338	2.387	2.353	2.482	1.899	1.231	-0.371	0.000
								0.000
Street markets	1.639	1.983	2.374	1.949	0.674	2.431	-0.087	0.000

Table 4.3 Mean outlet density (expressed in KDE quartiles) according to deprivation quintiles. Q1: Q5 ratio between the least deprived and the most deprived quintile. Pearson correlation assessing the relationship between outlet densities and deprivation

The ratios showed that in the four outlet categories, the highest outlet densities corresponded to the most affluent areas (Q1). The highest ratio belonged to convenience stores where, on average, outlet densities are 3.7 times greater in most affluent areas, compared to the most deprived areas. Contrastingly,

marketplaces had the lowest ratio, where outlet density was 1.2 times larger in more affluent areas compared to the most deprived.

The mean outlet densities indicate an uneven food outlet distribution across areas with different levels of deprivation. Although the most deprived areas had the lowest densities of all types of outlets, the results varied depending on the type of outlet. For example, areas in the less deprived quintile (Q1) had the highest average densities of convenience stores and supermarkets. Moreover, areas in the third and fourth deprivation quintiles had the highest densities of marketplaces and street markets.

The results from the Pearson correlation were all statistically significant ($p<0.001$). The negative correlation indicates that as deprivation decreases, outlet density increases (Table 4.3). The largest correlation corresponded to convenience stores (-.0.554), where outlet densities increased as deprivation decreased. Contrastingly, street markets have the lowest correlation (-0.087). These results suggest that street markets have a more balanced distribution across areas with different levels of deprivation, compared to the other three types of outlets.

4.3.3 Changes in Supermarket density from 1990 to 2015

The total number of chain supermarkets per million inhabitants (PMI) in Mexico City increased more than 400% from 1990 to 2015 (Figure 4.6). As mentioned in the previous chapter, the increase of supermarkets in this period holds an active link with the arrival of transnational food retailers, encouraged by the opening of Mexican trade barriers in the late 1980s. Although the population size has increased at the same time, the increase in the number of supermarkets is not proportional

In 1990, the total number of supermarkets was eight outlets PMI. Twenty-five years later, this number increased to almost 33 outlets PMI. The number of chain-supermarkets increased the most in the bodega category, which went from 3 outlets PMI in 1990 to 17.5 outlets PMI in 2015. The number of limited selection outlets and hypermarkets also augmented throughout, but not with the same magnitude as bodegas. At the same time, this period saw the appearance and penetration of wholesale clubs.

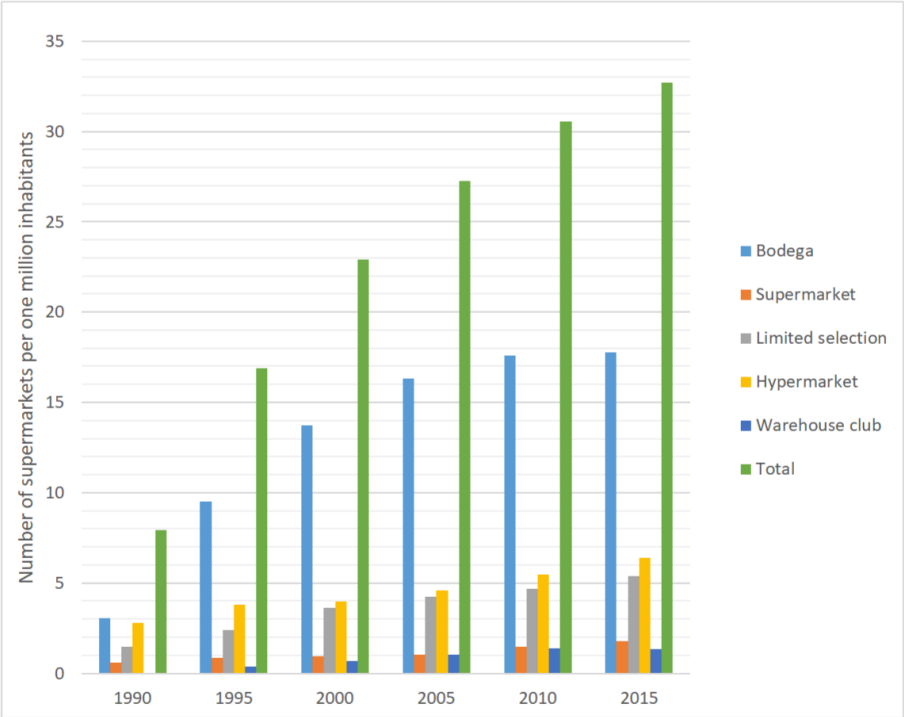

Figure 4.6. Number of supermarkets per million inhabitants in Mexico City 1990, 1995, 2000, 2005, 2010 and 2015

It has been shown that the most deprived areas increased their supermarket density more than five times between 1990 to 2015, (Table 4.4). Although the mean change in supermarket density (from 1990 to 2015) is higher in the least deprived areas (1.23) compared to most deprived areas (0.44), the percentage of change is the highest in highly deprived areas. These results indicate that the least deprived areas

of Mexico City have experienced the most significant changes during the study period. A series of ANOVA tests were used to explore the variance of outlet densities between deprivation quintiles. The results from the analysis showed that for all time points, outlet density varied significantly between deprivation groups.

The results from the ANOVA also indicated that variance between groups incremented more than three times during the study period, going from ($F(4, 2254) = 46.33$, $p < 0.001$) in 1990 to ($F(4, 2254) = 150.08$, $p < 0.001$) in 2015. The increasing variance of means between deprivation quintiles indicates an increasing polarisation of supermarket distribution in Mexico City, being predominantly more numerous in more affluent areas.

As mentioned in Chapter 2, in Mexico, the simplest type of supermarkets are called bodegas, which are small warehouses that sell basic non-perishable staples and industrialised food (Chavez 2002). The assessment outlet means showed that while the third deprivation quintile had the most substantial mean change (0.99), the most deprived quintile had the most significant percentage of change (728.57). Including all supermarkets, the ANOVA tests showed an increase in the variance between groups of 424 per cent. The high mean density values for more deprived quintiles suggest that this type of outlets are more predominant in areas with high deprivation in Mexico City. Moreover, the abundance of this type of supermarket indicates that people living in the most deprived areas are increasingly exposed to low-quality edible goods.

The second food outlet group corresponded to medium supermarkets and limited-section outlets. This group included medium-sized retailers that offer various types of foods ranging from fresh produce to various packaged goods. The exploration of the mean densities according to deprivation quintiles showed that the most

Mean outlet density (in KDE quartiles)								
	1990	**1995**	**2000**	**2005**	**2010**	**2015**	Mean Change 1990-2012	Mean Change 1990-2012
All supermarkets								
1 (least deprived)	0.84	1.44	1.59	1.84	2.11	2.07	1.23	246.43
2	0.72	1.24	1.45	1.69	1.78	1.73	1.01	240.28
3	0.5	0.92	1.18	1.37	1.59	1.49	0.99	298.00
4	0.33	0.78	1	1.12	1.22	1.19	0.86	360.61
5 (most deprived)	0.1	0.27	0.38	0.43	0.55	0.53	0.43	530.00
ANOVA								
F(4, 2254)	46.3	81.0	93.5	128.1	130.7	150.0	103.75	
P	0.0	0.0	0.00	0.00	0.00	0.00		
Bodegas								
1 (least deprived)	0.18	0.65	0.84	0.85	0.97	0.99	0.81	550.00
2	0.27	0.69	0.86	1.12	1.07	1.08	0.81	400.00
3	0.3	0.8	1.06	1.19	1.29	1.29	0.99	430.00
4	0.18	0.7	0.96	1.07	1.1	1.12	0.94	622.22
5 (most deprived)	0.07	0.29	0.39	0.42	0.51	0.51	0.44	728.57
ANOVA								
F(4, 2254)	7.34	16.3	25.3	33.91	30.5	31.15	23.81	
p	0.00	0.00	0.00	0.00	0.00	0.00		
Supermarkets and Limited-Selection								
1(least deprived)	0.36	0.5	0.58	0.8	0.89	1.14	0.78	316.67
2	0.25	0.36	0.54	0.54	0.48	0.57	0.32	228.00
3	0.05	0.08	0.13	0.19	0.23	0.27	0.22	540.00
4	0.07	0.08	0.1	0.09	0.12	0.18	0.11	257.14
5 (most deprived)	0.01	0.01	0.02	0.02	0.02	0.04	0.03	
ANOVA								
F(4, 2254)	48.3	73.6	103.0	115.8	113.9	125.4	77.16	
P	0.00	0.00	0.00	0.00	0.00	0.00		
Hypermarkets and Wholesale Clubs								
1(least deprived)	0.45	0.7	0.78	0.92	1.09	1.15	0.7	255.56
2	0.31	0.4	0.43	0.52	0.65	0.75	0.44	241.94
3	0.18	0.22	0.22	0.29	0.47	0.52	0.34	288.89
4	0.08	0.09	0.11	0.14	0.22	0.26	0.18	325.00
5 (most deprived)	0.01	0.02	0.02	0.02	0.06	0.08	0.07	
ANOVA								
F(4, 2254)	35.5	64.8	77.71	97.98	85.25	95.04	59.5	
p	0.00	0.00	0.00	0.00	0.00	0.00		

Table 4.4. Mean outlet densities (expressed in KDE quartiles) from 1990 to 2015 according to deprivation quintiles. Mean change and percentage of change. ANOVA test assessing variance between deprivation quintiles for each time point.

substantial density increase happened in the least deprived quintile (0.78), while the most significant increase percentage corresponds to the third deprivation quintile (540 per cent).

The ANOVA results indicated that the increase of all retailers was more significant in more affluent areas. Moreover, the tests showed how the variance between deprivation groups went from ($F(2, 2254) = 48.28$, $p<0.001$) in 1990 to ($F(2, 2254) = 48.28$, $p<0.001$) in 2015. The results showed that the most significant density change for large scale retailers (i.e. hypermarkets and wholesale clubs) corresponded to the most affluent quintile (0.7), yet, the largest percentage increase took place in the most deprived quintile (800 per cent). These results show that the most deprived neighbourhoods have the highest percentage increase in this supermarket category.

4.4 Summary

This chapter explored the relationship between food outlet density and deprivation in Mexico City through two approaches. The first approach included a cross-sectional examination of four types of food outlets: supermarkets, convenience stores, street markets and marketplaces. The results showed that areas with lower levels of deprivation had higher probabilities of having higher densities of supermarkets and convenience stores, compared to deprived areas. Moreover, the results showed that street markets were present throughout areas from all deprivation levels.

The second approach was longitudinal and only included supermarkets. This exploration allowed five types of supermarkets to be distinguished: bodegas, limited-selection supermarkets, standard supermarkets, hypermarkets, and warehouse clubs. The findings showed that the increase of bodegas was significantly higher in

deprived areas, while the rise in limited-selection supermarkets was the highest in more affluent areas. These results suggest an increase in the accessibility and availability of ultra-processed foods for deprived areas in Mexico City.

Using the food outlet density measures constructed in this chapter, the next chapter explores their relationship with food expenditure on processed and fresh foods.

5. Food outlet density and food expenditure in Mexico City

5.1 Introduction

As explained in Chapter 4, access to chain supermarkets and street markets in Mexico City increased enormously since the 1990s. This increase has been possible due to the adoption of free trade and investment policies that have favoured the interests of TNCs. On the one hand, the presence of TNCs supported the expansion of international chain food retailers such as Wal-mart, Oxxo and 7-eleven. On the other hand, street markets expanded as an alternative for small farmers to distribute their products (Chavez 2002; Gasca 2014; Galvez 2018).

Diet has been a common focus of studies examining the link between food environments and health. The results of such studies are mixed and do not elucidate a clear pattern. Most of the critiques of these studies centre in two main aspects: the use of different types of measurements to depict food environments, and the focus on a single kind of outlet and individual food types (Caspi et al. 2012; Chariere et al. 2008; Kirkpatrick et al. 2014). This chapter explores the link between exposure to four types of food retailers (convenience stores, supermarkets, marketplaces and street markets) and food expenditure in Mexico City, at a household-scale. These results add to current evidence on the nutrition transition of Mexico, as well as to the impact of the opening of trade barriers in foodscapes and health. The research questions are the following:

- What is the extent of the relationship between outlet density and food expenditures in Mexico City?

- Does outlet density affect fresh food expenditure and ultra-processed food expenditure differently? If so, is this relationship linked to outlet type?

5.2 Analysis Plan

To explore the extent of the influence of local outlet densities in dietary patterns, the analysis includes six subsections. The analysis plan begins by providing a brief overview of the survey used to obtain food expenditure data (section 5.2.1). The next section (5.2.2) explains the classification system used to summarise food expenditures as well as its relevance for the analysis. The following section (5.2.3) describes the outcome variables, and how they were calculated concerning total food expenditure. The next two sections (5.2.4 and 5.2.5) present the exposure and covariate variables used for the analysis. Finally, section 5.2.6 explains the statistical analysis used to measure the relationship between outlet density and household food expenditure.

5.2.1 Data Collection

Data for food expenditure was sourced from the 2013 Mexican Expenditure Survey (ENGASTO 2013). ENGASTO 2013 is a cross-sectional survey that gathers information on annual household expenditure on durable and non-durable goods. The Mexican Institute of Geography and Statistics (INEGI) conducts this survey on a five-year basis, thus, the 2013 survey constitutes the latest available data (INEGI 2014).

Data for this survey are collected through expenditure diaries, in which the head of each household indicates the daily family expenditures. Data are collected on a

three-month basis during a year. The available data reflects the annual expenditure of each good in Mexican Pesos (MXN) (INEGI 2014). Data on family and household characteristics are also compiled and available in the ENGASTO database. Data are expressed as annual expenditures, and AGEBs are given as a geographical reference to respect the anonymity of the participants.

Food expenditure data was elicited from the survey database, as well as household and family indicators (e.g. socioeconomic status, number of household members and education level). Data were obtained for Mexico City only, constituting a total sample of 1980 households

The ENGASTO survey provides data on the total annual expenditure on 156 edible goods, which were classified into four groups according to their level of processing. The next section explains the categorisation system used for this analysis.

5.2.2 Classification of food groups

The foods included in the ENGASTO survey were classified according to the NOVA food classification system (Table 5.1). This classification allows foods to be sorted into four categories based on their level of industrial processing (Moubarac et al. 2014; Monteiro et al. 2018). The NOVA food classification system has been used in numerous international studies and was initially created to assess the role of industrial processing on human health (Monteiro et al. 2010; Moubarac et al. 2014; Monteiro et al. 2018; Monteiro et al. 2016).

The use of NOVA is particularly pertinent for this analysis since it suggests that the current changes in food systems are fundamentally driven by industrial food processing. Also, the NOVA food classification system considers industrialised food

as the principal determinant of diets and health conditions (Moubarac et al. 2014: Monteiro et al. 2016).

Food group	Definition	Examples
1. Unprocessed or minimally processed foods/fresh foods	Foods from animal or plant origin directly harvested or slaughtered. Also includes foods altered in ways that do not add or introduce any substance	Fresh, chilled and frozen fruits and vegetables; rice, roots and tubers; fresh, frozen and dried meat fish and poultry; eggs; milk
2. Processed culinary ingredients	Food products extracted and purified by industry from constituents of food	Plant oils; animal fat; sugars and syrups; starches and flours; raw pasta, salt
3. Processed food	Food manufactured by adding substances like oil, sugar or salt to make them durable and more palatable	Canned or bottled vegetables preserved in brine; peeled fruits preserved in syrup; ham, bacon; cheese
4. Ultra-processed food products	Formulations of industrial ingredients and substances derived from foods or created in laboratories	Crisps, confectionery, soft drinks, biscuits, breakfast cereals, alcoholic beverages, jams, margarine, fruit yoghurts

Table 5.1. NOVA food classification system. Adapted from Monteiro et al. 2010

5.3 Outcome variables

After the food was classified according to the NOVA classification, household expenditure on fresh and ultra-processed foods was measured as a percentage of the total food expenditure. The percentages were calculated by dividing household annual expenditure into fresh and ultra-processed foods by the total food expenditure. As a result, the two percentages constitute the main outcome variables and are used as continuous variables.

5.4 Exposure measures

To understand how exposure to different types of food retailers linked to food expenditures patterns in Mexico City, four food-outlet exposure variables were used. These variables correspond to those constructed in Chapter 4 for the assessment of convenience store, supermarket, marketplace, and street market densities in Mexico City in 2015. In brief, exposure measures were derived through the calculation of KDE densities using a 1000-meter radius. Values were attributed to each AGEB in Mexico City by extracting the value of the centroid of each AGEB. Values were then classified into density quartiles.

5.4 Covariates

Statistical analyses were adjusted for the number of household members, family and household-head educational level. Although ENGSTO 2013 provided a household-level SES, this variable was not included in the analysis. This variable was not selected because it was built in to identify rural poverty aspects, which are not suitable for an urban sample. Instead, household-head education level was used as an indicator of social position. Education is commonly used as an indicator of

social position since it is highly correlated with income and employment (Galobardes et al. 2006). This variable was divided into four categories, according to the years of school attendance. The first category refers to less than six years, the second category between six and nine years, the third between 10 and 12 years, and the last one to 12 years or more.

5.2.6 Statistical analyses

Linear regression was used to test how food-outlet density affects the percentage of a household budget spent on fresh and processed foods. This analysis enabled to describe the relationship between the two variables by predicting the values of the dependent variable (Kohler and Kreuter 2012). Models were built separately for fresh and processed food expenditure and were adjusted in three stages. The first stage corresponds to the “raw model” in which only food outlet density and food expenditure are included, with the absence of food-outlets used as a reference category. The second stage (Model 2) involved controls for the level of education and number of household members. Finally, the third stage (Model 3) controlled for the density of other outlets, since food environments are usually mixed and include various types of retailers.

5.3. Results

This section presents the results of the descriptive statistics (5.3.1) and the linear regression results for fresh-food (5.3.2) and ultra-processed food expenditure (5.3.2). The first section is divided according to food expenditure, demographic characteristics and outlet density. The second and third sections present the results

from the unadjusted and adjusted models assessing the relationship between outlet density and food expenditure.

5.3.1 About the sample

Data from the 2013 Mexican Expenditure Survey were used to calculate the percentage of the household food budget al.located to fresh and ultra-processed foods, following the NOVA food classification. Table 5.2 provides an overview of the characteristics of the sample.

About the sample		
Number of households	1980	
Average family size	3.63	
Education level	N	%
< 6years	204	10.3
6-9 years	390	19.7
10-12 years	612	30.91
>12 years	774	39.09
Average annual expenditure on food (in $MXN)	193946.60	
%of total family income designated on food	27.91	
% of the food budget al.located on fresh food	61.81	
% of the food budget allocated on processed food	26.77	

Table 5.2. Descriptive statistics from the Mexican Expenditure Survey (ENGASTO 2013). Mexico City sample

The total sample of Mexico City included 1980 households with an average size of 3.63 members. As explained in the analysis plan, the education level of the household head was used to determine SES. The overall sample was distributed as follows: 39 per cent had 12 or more years of education, 30 per cent had 10-12 years of education; 19.7 had six to ten years of education, and 10.3 per cent had six or fewer years of schooling. Concerning food expenditure, households included in the sample designated on average 27 per cent of their total annual income on food, from which they allocated 61.8 per cent to fresh food and 26.7 per cent to ultra-processed foods.

According to education level categories, households with fewer years of education (corresponding to the household head) allocate a more significant percentage of their annual income to food. While households with the highest number of years of education spend on average 20.89 per cent of their yearly income in food, households in the lowest category allocated on average of 36.1 per cent.

	% of income allocated on food	% of the food budget allocated on fresh food	%of food budget allocated on ultra-processed foods
Education Level (household head)			
< 6 years	36.10	68.12	20.47
6-9 years	34.47	67.72	22.34
10-12 years	29.87	63.13	24.67
>12 years	20.89	56.13	32.32

Table 5.3. Percentage of income allocated to food and percentage of food budget al.located to fresh and ultra-processed foods according to the education level of the household head

Overall, the results suggest that households with less years education levels in Mexico City assign a more significant part of their annual income to food than households more years of education. Table 5.3 shows that households with more years of education designate a greater part of their food budget to ultra-processed foods than less educated households. For example, households in the highest education category allocate 32 per cent of their food budget to ultra-processed foods, while households in the lowest group designated only 20.4 per cent. In contrast, the percentage of the food budget allocated to fresh food was larger for households the lowest education level (68.12 per cent), compared to the highest education (56.13 per cent). These findings suggest that SES is associated with the distribution of food budgets at a household-level in Mexico City.

Table 5.4 shows the average percentage of expenditure on fresh and ultra-processed-foods according to outlet densities. In regards to the percentage of the food budget al.located to fresh-food, households located in areas with lower densities of convenience stores and marketplaces allocated the highest percentage of their food budget on fresh food (65.2 and 67.6 per cent respectively). Contrary to this finding, households located in areas with high densities of convenience stores, marketplaces and supermarkets designated a more significant percentage of their food budget to ultra-processed foods (30.15, 29.25, and 28.7 per cent respectively).

Type of outlet	Outlet densities (in KDE quartiles)	% of income allocated on food	% of the food budget al.located on fresh food	%of food budget al.located in ultra-processed foods
Supermarket	0	29.02	62.71	25.07
	1	22.19	62.71	25.69
	2	26.00	62.03	26.45
	3	35.48	63.23	27.35
	4 (highest)	26.54	59.47	28.75
Convenience Stores	0	30.10	65.27	22.22
	1	27.25	65.76	22.72
	2	27.04	59.39	27.92
	3	24.41	61.54	27.48
	4(highest)	31.00	59.28	30.15
Marketplaces	0	30.33	67.69	21.67
	1	28.97	63.68	24.67
	2	25.09	61.16	26.20
	3	29.59	60.68	27.58
	4(highest)	25.70	59.47	29.25
Street markets	0	28.05	62.80	25.55
	1	26.14	55.93	29.55
	2	30.52	63.73	25.36
	3	27.01	58.16	30.33
	4(highest)	25.32	64.03	24.84

Table 5.4. Percentage of income allocated to food and percentage of food budget al.located to fresh and ultra-processed foods according to outlet density quartiles.

5.3.2 Associations between food expenditure and food outlet densities

The associations between food expenditure in fresh and ultra-processed foods and outlet densities were tested using a series of linear regressions. Table 5.5 presents the results of the regression analyses.

Regressions were run separately for each supermarket category as well as for a category including all supermarkets. In all categories, Model 1 refers to the unadjusted model; examining only the association between outlet density quartiles and food expenditure percentages. Model 2 is an adjusted model that includes the covariates (i.e. education level, and the number of household members). Finally, Model 3 accounts for covariates as well as for densities of the other outlet categories.

The results from the regression analyses showed statistically significant associations ($p<.05$) between processed food expenditure and high densities of convenience stores (Coef: 7.39, CI: 1.94-13.92) and marketplaces (Coef: 5.92, CI: 0.68-11.15). However, when models were adjusted for covariates and the presence of other outlets, the regression coefficient lost significance.

The loss of statistical significance when adjusting the regression models discards the possibility of a causal relationship between outlet density and food expenditure. To determine a causal relationship, "the connection between variables must not disappear when the influences of other variables are taken into account "(Tarling 2009:141). Thus the initial associations do not take not account the covariates as well as the mix of food outlets surrounding a given household.

Interestingly education level was significantly associated with food expenditure. For instance, when assessing supermarket densities, the percentage of the food budget allocated to fresh food was negatively associated with education level (Coef: -4.89, CI: -6.5-3.3, $p<0.001$). These findings indicate that as the education level increases, households in Mexico City decreased their consumption of fresh foods.

In contrast to these results, the percentage of food budget allocated to ultra-processed food was positively associated with education level. The assessment of

supermarket densities displayed that for a one-level increase in education level, the budget allocated to ultra-processed food increased by 4.4 per cent (Coef: 4.4, CI 2.8-9.4, $p<0.001$).

The number of household members also had positive and negative associations with food expenditure. While the number of household members was positively associated with the percentage of fresh-food expenditure, associations were negative for the percentage of ultra-processed food expenditure. For example, for street market density, the percentage of fresh food expenditure increased 1.02per cent (CI: 0.13-1.91, $p<0.05$) for each additional household member, while for ultra-processed food it decreases 0.94 per cent (CI: -1.8-1.91, $p<0.05$). These findings suggest that households with a more significant number of members allocate a larger part of their food budget to fresh food, whereas households with fewer members designate a greater portion of their food budget to ultra-processed foods.

It is important to note that this analysis has two potential limitations. On the one hand, the lack of consistent results in this analysis can be linked to the size of the sample and the type of survey. As explained before, the ENGASTO survey was designed as a general expenditure survey and did not focus solely on food expenditure. As a result, the ENGASTO survey might not be detailed enough to reflect diet-related outcomes.

On the other hand, the results may not reflect a causal connection between food outlet density and food expenditure. Since the food outlet data were cross-sectional, there is an absence of an assessment in food outlet change, which could lead to determining a strong causal relationship. Furthermore, the associations found in the regression analyses could reflect an association between food expenditure and the availability of various outlets in the same area.

	% of the food budget allocated on fresh food			%of food budget allocated in ultra-processed food		
	Model 1 (unadjusted)	Model 2 (adjusted)	Model 3 (adjusted)	Model 1 (unadjusted)	Model 2 (adjusted)	Model 3 (adjusted)
Outlet densities	Coef (CI)	Coef (CI)	Coef (CI)	Coef (CI)	Coef (CI)	Coef (CI)
Supermarket density						
No supermarkets (reference)						
1 (lowest)	0.003(-5.54-5.53)	1.53(-3.72-6.77)	1.30(-3.96-6.56)	0.62(-4.64-5.89)	-0.81(-5.83-4.21)	-0.91(-5.94-4.12)
2	-0.68(-7.16-5.81)	0.88(-5.22-6.99)	-0.07(-6.43-6.29)	1.38(-4.80-7.55)	-0.05(-5.89-5.79)	0.00(-6.09-6.08)
3	0.52(-5.04-6.08)	-0.69(-5.96-4.57)	-0.51(-6.26-5.24)	2.28(-3.02-7.57)	3.35(-1.69-8.39)	2.13(-3.38-7.63)
4 (highest)	-3.24(-8.14-1.67)	-2.34(-6.95-2.28)	-3.18(-8.72-2.37)	3.68(-0.99-8.35)	2.84(-1.57-7.26)	2.41(-2.89-7.72)
Education level (household head)		-4.86(-6.48--3.24)	-4.89***(-6.50--3.29)		4.4**(2.84-5.95)	4.4***(2.86-5.94)
Number of household members		1.24(0.34-2.14)	1.08*(0.18-1.98)		-1.18(-2.05--0.32)	
Other food outlet densities						
Convenience stores			-0.38(-2.19-1.44)			1.07(-0.66-2.81)
Marketplaces			-1.32(-2.77-0.12)			0.90(-0.48-2.28)
Street-market			1.23(-0.35-2.82)			-1.01(-2.53-0.51)

Table 5.5 Regression coefficients and confidence intervals from linear regression assessing the relationship between percentage of food budget al.located in fresh and ultra-processed food and food outlet density (expressed in KDE quartiles). * p<0.05, **p<0.01, *** p<0.001

	Model 1 (unadjusted)	Model 2 (adjusted)	Model 3 (adjusted)	Model 1 (unadjusted)	Model 2 (adjusted)	Model 3 (adjusted)
Outlet densities	**Coef (CI)**	**Coef (CI)**	**Coef (CI)**	**Coef (CI)**	**Coef (CI)**	**Coef (CI)**
Convenience store density						
No convenience stores (reference)						
1(lowest)	0.48(-6.18-7.15)	1.68(-4.58-7.94)	1.61(-5.98-9.20)	0.49(-5.82-6.81)	-0.57(-6.55-5.42)	0.06(-7.21-7.34)
2	-5.89(-12.85-1.08)	-5.07(-11.61-1.47)	-3.06(-10.91-4.79)	5.69(-0.91-12.29)	4.97(-1.28-11.22)	3.81(-3.71-11.33)
3	-3.73(-10.21-2.74)	-1.52(-7.64-4.59)	0.29(-7.81-8.38)	5.25(-0.88-11.39)	3.29(-2.56-9.13)	2.66(-5.10-10.41)
4(highest)	-6.00(-12.32-0.33)	-4.47(-10.45-1.50)	-0.79(-9.60-8.01)	7.93**(1.94-13.92)	6.55(0.84-12.26)	4.29(-4.15-12.72)
Education level (household head)		-4.89(-6.48--3.30)	-4.93***(-6.52--3.34)		4.29**(2.78-5.81)	4.35***(2.83-5.87)
Number of household members		1.11(0.21-2.00)	1.06(0.16-1.95)		-1.02(-1.87--0.16)	
Other food outlet densities						
Supermarkets			-0.57(-1.98-0.85)			0.59(-0.77-1.95)
Marketplaces			-1.37(-2.79-0.06)			0.88(-0.49-2.25)
Street-markets			0.70(-1.13-2.53)			-0.82(-2.57-0.93)

Table 5.5 Regression coefficients and confidence intervals from linear regression assessing the relationship between percentage of food budget al.located in fresh and ultra-processed food and food outlet density (expressed in KDE quartiles). * p<0.05, **p<0.01, *** p<0.001

	% of the food budget allocated on fresh food			%of food budget allocated in ultra-processed food		
	Model 1 (unadjusted)	Model 2 (adjusted)	Model 3 (adjusted)	Model 1 (unadjusted)	Model 2 (adjusted)	Model 3 (adjusted)
Outlet densities	Coef (CI)	Coef (CI)	Coef (CI)	Coef (CI)	Coef (CI)	Coef (CI)
Marketplace density						
No marketplaces (reference)						
1(lowest)	-4.01(-10.62-2.61)	-4.11(-10.33-2.11)	-3.57(-9.91-2.77)	3.00(-3.30-9.31)	3.12(-2.86-9.10)	2.00(-4.07-8.06)
2	-6.54(-15.08-2.01)	-4.82(-12.87-3.23)	-5.46(-14.41-3.49)	4.53(-3.61-12.67)	2.98(-4.75-10.71)	2.23(-6.33-10.79)
3	76.8997	-6.53(-11.69--1.36)	-4.45(-10.90-2.00)	5.92*(0.68-11.15)	5.46(0.50-10.42)	1.43(-4.74-7.60)
4(highest)	-8.22***(-13.39--3.04)		-7.10(-12.00--2.21)		7.58**(2.65-12.52)	6.54(1.84-11.24)
Education level (household head)		-4.79(-6.37--3.20)	-4.92***(-6.51--3.33)		4.23**(2.70-5.75)	4.36***(2.84-5.89)
Number of household members		1.07(0.18-1.97)	1.04(0.14-1.94)		-1.04(-1.90--0.18)	
Other food outlet densities						
Supermarkets			-0.95(-2.40-0.49)			0.87(-0.51-2.25)
Convenience stores			-0.24(-2.09-1.61)			1.22(-0.56-2.99)
Street-markets			1.24(-0.43-2.92)			-1.34(-2.93-0.26)
Street market density						
No street markets (reference)						
1(lowest)	-6.87(-15.77-2.03)	-6.61(-14.97-1.74)	-5.77(-14.31-2.77)	4.00(-4.51-12.51)	3.80(-4.26-11.86)	1.95(-6.26-10.16)
2	0.93(-5.11-6.97)	1.97(-3.70-7.63)	4.06(-2.08-10.19)	-0.19(-5.96-5.58)	-1.11(-6.58-4.36)	-4.24(-10.14-1.66)
3	-4.64(-10.95-1.67)	-2.57(-8.53-3.39)	1.29(-5.63-8.22)	4.78(-1.26-10.81)	2.90(-2.85-8.65)	-2.14(-8.80-4.52)
4(highest)	1.23(-5.18-7.65)	2.66(-3.37-8.70)	4.09(-2.66-10.83)	-0.71(-6.84-5.42)	-1.96(-7.78-3.86)	-4.67(-11.15-1.82)
Education level (household head)		-4.87(-6.46--3.29)	-4.92***(-6.49--3.34)		4.28***(2.75-5.81)	4.34***(2.83-5.86)
Number of household members		1.13(0.24-2.02)	1.02*(0.13-1.91)		-1.09(-1.95--0.22)	1.6 (0.35-1.98)
Other food outlet densities						
Supermarkets			-0.25(-2.05-1.55)			1.14(-0.59-2.87)
Convenience stores			-1.40(-2.86-0.05)			0.85(-0.55-2.25)
Marketplaces			-0.71(-2.01-0.60)			0.66(-0.60-1.91)

Table 5.5 Regression coefficients and confidence intervals from linear regression assessing the relationship between percentage of food budget al.located in fresh and ultra-processed food and food outlet density (expressed in KDE quartiles). * p<0.05, **p<0.01, *** p<0.001

5.4 Summary

This chapter analysed how food outlet densities were associated with different levels of household expenditure on fresh and ultra-processed foods. The results showed that households located in areas with higher densities of supermarkets and convenience stores were more likely to have higher expenditures on ultra-processed foods. Moreover, this chapter showed that households located in areas with high densities of street markets were seven times more likely to allocate most of their household food budget to fresh food. These results indicate that local food environments constitute a significant influence on food expenditure and diet. The importance of evidence linking food environments and health can help create adequate policies at a local level. The next chapter provides a qualitative account of foodscapes and dietary choices in four socioeconomically diverse neighbourhoods in Mexico City.

6. Exploring motivations for choosing food outlets in Mexico City

6.1 Introduction

As discussed in Chapter 4, the entrance of TNCs to Mexico City increased the number of new food outlets (e.g. supermarkets and convenience stores) at precipitous rates over the last three decades. Results from earlier chapters also indicated that Mexico City has considerably mixed local food environments, including many types of retailers; ranging from itinerant street markets to luxury supermarkets.

The influence of local food environments on food availability, and therefore health and diet quality has been widely studied in recent years (Caspi et al. 2012; Charriere et al. 2010). Although most of this work has provided significant evidence on the relationship between food environments and deprivation, very little is known about the ways individuals interact with their local food environment (Curtis 2004; Cummins et al. 2007; Thompson et al. 2013). Considering that food shopping is a critical element in the interaction between individuals and their local food environment, this chapter explores individual motivations for choosing a food outlet in four neighbourhoods in Mexico City.

The specific aims and research questions were:

To examine individual motivations for choosing a food outlet in Mexico City

- In which ways do motivations relate to individual and social factors?

- How do social and environmental determinants interact in the selection of traditional and new food retailers?

6.2 Analysis plan

6. 2.1 A qualitative approach

Studies researching the effects of location on the diet have used various methodologies to explore the role of neighbourhood contexts in shaping diet (Caspi et al. 2012). Most of these studies have included census-based measures consisting of the simple aggregation of individual characteristics or global indices (Charriere et al. 2010; Cummins et al. 2005). Although these approaches have built an important body of evidence, they have been criticised for not providing sufficient evidence for understanding and explaining the numerous ways in which locations matter for diet and health (Frohlich et al. 2001).

Qualitative studies concerning diet and location are not numerous. However, these methodologies have been proven successful in the study of neighbourhood effects on health. These methodologies are advantageous for the study of specific social, cultural and historical contexts, where standard survey methods are not suitable (Catell et al. 2008; Altschuler et al. 2004). Moreover, this line of research allows the production and improvement of knowledge on location and health based on people's experiences through an interpretative and inductive position (Carpiano et al. 2009; Carpiano and Daley 2006; Cummins et al. 2007).

Considering the need to understand the contextual motivations for choosing a food outlet in Mexico City, this chapter adopts a qualitative approach. Thus, it provides a flexible and open exploration of the subject, allowing the study of social, experiential

and nuanced complexities of individual and household motivations for choosing a food retailer in Mexico City.

For this chapter, a go-along method was utilised. This type of method is often referred to as go-along interviews and consists of a fusion of participant observation and interviewing (Kusenbach 2003; Carpiano 2009). The next section will explain the specificities of this methodology and its advantages for the study of motivations for food shopping in Mexico City.

6.2.2 Go-along interviews

Go-along interviews are a form of an in-depth qualitative interview in which the researcher accompanies individual informants on outings in their familiar environments (Carpiano 2009; Kusenbach 2003). The go along can be either conducted while the participant is walking, driving or combining the two (Kusenbach 2003). Although the mode of mobility can change depending on the context and the participant's needs, this type of method involves interviewing the participant while their lived experiences are taking place (Cummins et al. 2007).

Go along interviews are considered a powerful tool in the study of health and location since they enable the researcher to explore the participants' experiences, interpretations and practices (Gieryn 2000; Evans and Jones 2011). By merging field observation and interviewing, go along interviews allow examination of the participants' observations of their contexts and practices whilst experiencing them (Carpiano 2009). Thus, this method is particularly useful for participants to express and contextualise their practices as naturally as possible (Bergeron et al. 2014).

In this research, go-along interviews took place while participants carried out their everyday food shopping. In the case of food shopping, go along interviews allowed questions about food shopping practices to be asked while observing a real-life situation. Moreover, go-along interviews enabled the power dynamics between the participant and the researcher to change since the participant had to act as a "guide" through the shopping tour (Carpiano 2009). The shift in power dynamics between interviewer and interviewee has been related to higher participation of interviewees, particularly in disadvantaged communities (Kirby et al. 2006).

The go-along method also has the advantage of being flexible, allowing different interviewing formats (Kusenbach 2003). Thus, it can be conducted either as an open-ended interview (leaving the participant free to comment on whatever they want) or in a more guided manner through semi-structured interviews (using a list of prepared questions or topics to discuss).

The main advantage of interviews is that they allow specified aspects of inquiry to be discussed while also using probes to inspire further elaborations or clarifications. Information exchanges via semi-structured interviews require a well-structured research plan and a well-trained researcher. Communication skills, clear articulation of questions, listening abilities, amiable qualities to encourage interview comfort and openness, and the ability to appropriately probe are all crucial elements of a successful semi-structured interview data collection process (Cohen et al. 2007).

An interview schedule was developed that included a list of questions and inquiry topics that were covered in the interview (Patton, 1990). The interview schedule was organised thematically to provide organisation and flow. Interview inquiry questions were designed to draw out aspects specific to motivations for selecting a particular food-shopping outlet. This semi-structured style allowed both researcher and

participant to shape the interview, thus removing, to some extent, the power relationships that can be detrimental to truth-building and ultimately information exchange. This methodology allowed for the ‘experience' of each participant to unfold fluidly. There was consistency in a majority of questions asked; however, the semi-structure allowed variation in question order and wording. Table 6.1 shows the general inquiry points.

Topic	**Questions**
Characteristics of the food retailer	• Where are we going and why? • How often do you come here? • Do you usually come by yourself? If not, with whom do you come?
Comparisons to other food retailers	• Why are we here instead of another food retailer? • How do you compare this retailer to others? • Do you shop in other places? If so, what do you buy in other retailers?
Availability and affordability of goods	• Which type of products can you commonly find here? Are they available everywhere? • Have you ever compared prices with another food retailer? If so, what have you noticed? • Do you have a budget for food? • Is the quality of edible goods the same everywhere? If not, where can you find the best quality?

Table 6.1 Interview schedule showing the general points of inquiry

6.2.3 Ethical implications

Ethical consideration was undertaken across all phases of research. Ethical approval was sought and awarded by the University of Edinburgh Ethical Committee before recruitment began. Semi-structured interviews and personal observations took place at food outlets and the participants' homes. An information sheet/email about the study was given to each participant explaining procedures and research intent. All participants were consenting adults age 18+. Participants were asked if they desired an anonymous identity for the study, however, all participants agreed their first names could be used.

Moreover, participants were not pressured to share any information that they did not wish to. All interviews were recorded, and all participants before the interview process signed consent forms. All participants were offered copies of their interview transcripts. If requested, the interview could have been stopped at any time, however, this did not occur.

6.3 Research Process

The research design consisted of three phases to address the research questions. The first phase involved selecting the four locations included in this research. To do so, food environments were explored at a neighbourhood level including socio-demographic characteristics. The second phase refers to the recruitment of participants in each of the selected area. This process involved gaining entrance to the community through "gatekeepers" ensued by a snowball approach for further participant recruitment. Finally, the third phase included data collection and analysis. This last phase consisted of three parallel sub-phases: 1) 32 go-along

interview interviews; 2) ethnographic observations using the field diary and photographs, and 3) the simultaneous transcription and coding of the interviews and field diary. Figure 6.1 presents a diagram of the three research phases.

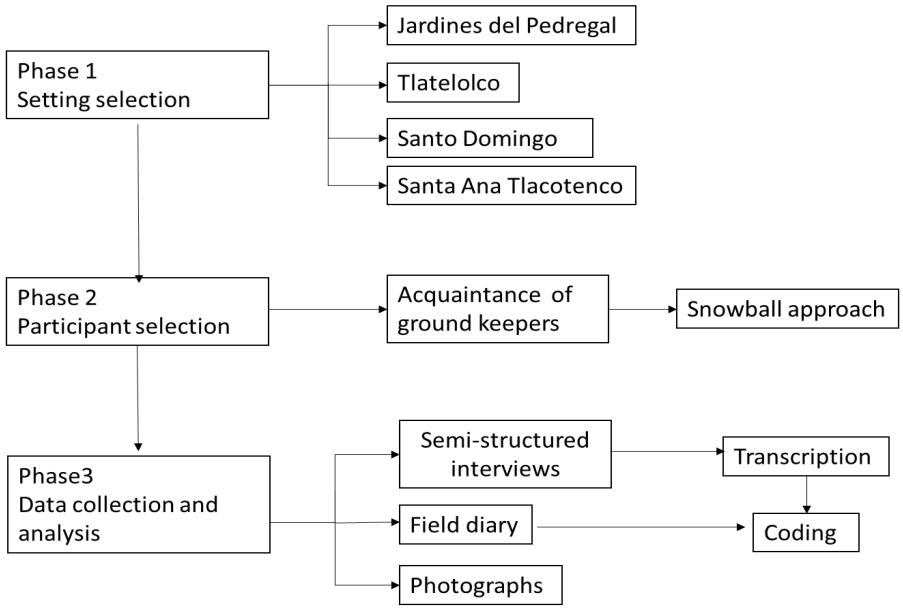

Figure 6.1 Diagram presenting the three phases included in the research

6.3.1 Setting selection

The selection of the four settings was purposive, allowing for a deliberate and intentional choice of four locations with different food environments and sociodemographic characteristics (Palys 2008). The results from the previous chapters enabled the exploration of four areas with varying densities of food outlets, as well as area-level deprivation.

In contrast to the previous chapters, the spatial unit of analysis were *colonias* (meaning colonies in Spanish) instead of AGEBs. Colonias correspond to historical and administrative units in Mexico City (Gonzalez Sánchez and Kunz Bolaños

2005). While AGEBs were initially delimited to assess the damage of the 1985 earthquake in Mexico City, the conformation of colonias relates to historical and urban sprawl processes that have taken place in Mexico City since pre-Hispanic times. The term Colonia was first coined in Mexico City to refer to groups of people of a given ethnicity that lived in a specific place in the city in the 19th century (DEM nd). The foundation of colonias in Mexico City can be summarised into three separate processes. The first process relates to the assimilation of contiguous towns into the urban fabric of Mexico City. The second process corresponds to housing developments, creating gated communities or homogenous residential units. Finally, the third process corresponds to illegal settlements in empty pieces of land (Gonzalez Sánchez and Kunz Bolaños 2005).

Bearing in mind the differences between colonial and AGEBs, colonias were used because of their historical context and homogenous formation. Therefore, four colonias in Mexico City were chosen according to their conformation, food outlet density, socio-demographic characteristics and accessibility. Figure 6.2 shows the location of the four chosen settings, as well as the distribution of food retailers surrounding them.

The first setting is Jardines del Pedregal. This area is an upscale residential colonia, home to some of the wealthiest families in Mexico. It was initially developed in the mid-1940s as part of a modernist housing development. Today, some of the old modernist houses are registered as part of Mexico's national patrimony (Perez Mendez et al. 2007). This area has only three supermarkets inside its boundaries; however, various supermarkets and convenience stores around it. Traditional food outlets (e.g. street markets and marketplaces) are scarce in their surroundings.

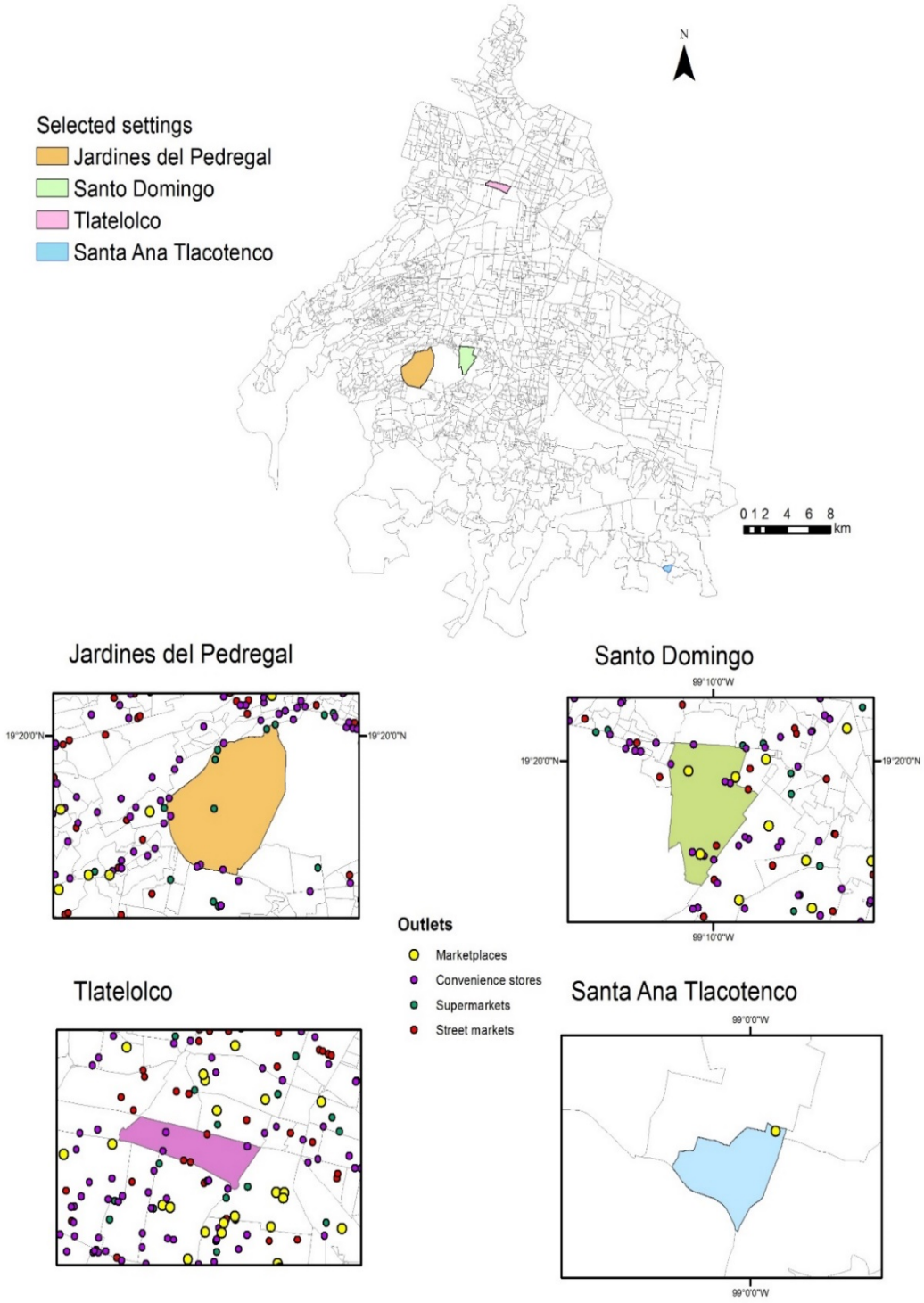

Figure 6.2. Location of the 4 selected colonias and their retailing environment

The second setting is Santo Domingo. This place was originally a lava field located in the south of Mexico City. Indigenous migrants from the south-west of Mexico invaded this area in 1971 (Diaz Enciso 2002). Since then, this area has been expanding and includes more than 94,000 inhabitants, according to the 2015 census (INEGI 2015). Low-income families and students (due to its proximity to the Mexican National Autonomous University and low rents) mostly inhabit this area (INEGI 2015). In contrast to Jardines del Pedregal, the area does not include supermarkets within its boundaries. The most abundant food retailers inside and surrounding Santo Domingo are street markets and marketplaces.

The third setting is Tlatelolco. This colonia constitutes the largest apartment complex in Mexico and second-largest in North America after New York's Co-op City (Jacome-Moreno 2009). This complex was built in the 1960s and originally included 102 apartment buildings, with their schools, hospitals and stores, making it more a city within a city. Today, the complex is smaller, and is in a state of deterioration, mostly due to the effects and after-effects of the 1985 Mexico City earthquake (Jacome-Moreno 2009; Carpenter 2005). Despite the decline, this area has low deprivation levels (according to the marginalisation index) and includes a middle-income population (INEGI 2015). This area contains food outlets of all kinds in addition to numerous speciality stores (such as bakeries, tortilla-shops, butchers, fruit-stores and street food vendors).

The fourth colonia chosen was Santa Ana Tlacotenco. This area is in the south-west of Mexico City, bordering with the state of Morelos. It was initially an indigenous rural town and was included in the delimitation of Mexico City in the 1920s (Galeana 2013). Santa Ana Tlacotench is one of the few localities in Mexico City were agricultural practices still prevail as well as indigenous language speakers (INEGI

2015). Compared to the rest of the settings, this area has a very low density of food retailers since it only has one marketplace. However, the main square of Santa Ana is usually occupied by the “plaza”, which consists of local food vendors offering numerous types of fresh produce.

6.3.2 Participant selection

Similarly to the setting selection, participants were selected through purposive sampling. Purposive sampling is a non-probability sampling technique that enables the researcher to select participants deemed to have valuable insight around the research area (Patton 1990). Participation for the go-along interviews was sought for adult individuals (18+) who were inhabitants of each area for at least two years and were in charge of their household food shopping.

Once the settings were chosen, “gate-keepers” were identified in each colonia to gain access to the area and its inhabitants. For this research gate-keepers were individuals within the community that could facilitate meeting other people within the neighbourhood due to their role and trust relationships (Parker-Jenkins 2018). Due to the heterogeneity of the settings, the identification of “gate-keepers” occurred in different manners. For example, in Jardines del Pedregal, the main “gate-keeper” was a local pilates studio owner. Contrastingly, for Tlatelolco, a local police officer and a local English teacher enabled entrance to the community. After the gate-keepers were identified and contacted, a snowball approach was adopted to recruit more participants. This recruiting method occurred by asking participants whether they knew of others who may have characteristics applicable to the research. This recruitment process resulted in 34 go-along interviews, while 35 participants were included in these interviews.

6.3.3 Data Collection and Analysis

Data collection and analysis occurred simultaneously to explore the data reflexively. Due to this, a rigorous work strategy was adopted. In any spare time between site or event visits, summaries (in-process memos) were written, and data were coded. To address this labour-intensive process, three strategies were used: data reduction using 'in-process memos' to summarise each field contact (Emerson et al. 2011), a systematic and themed diary note-taking tactic exploring both descriptive and reflective observations, and the Computer Assisted Qualitative Data Analysis Software (CAQDAS) package by NVivo was used for the analysis of data.

NVivo was timesaving as it allowed easy management and coding of the data, as well as flexibility with data configurations and adjustments. Moreover, an 'in-process' memo strategy allowed for an immediate reflection on themes and any issues (Emerson et al., 2011), while a systematic field diary permitted strategy for organisation, consistency, and clarity.

As transcription is seen as part of the analysis (Elliot and Timulak, 2005), each interview was played back twice to ensure accuracy of transcription and to gain a deeper relationship to the nuances of each account, thus, creating a reflexive and iterative transcription process. This also allowed for a review of moments of interruption in multi-person households, as this occurred with some frequency. Transcriptions occurred verbatim, with no attempts to change speech patterns or correct grammar or punctuation.

Interviews times ranged from 25 to 110 minutes. Ultimately, the transcription of interviews allowed the presentation of quotes, thus providing the reader with the opportunity to subjectively interpret data.

6.3.4 Field diary

Observations were made at each interview, shopping outlet and some of the participants' houses. Field notes were written at the same time as the interactions were observed (Emerson et al., 2011). Note-taking followed a two-part, descriptive and reflective approach. Descriptive information included observations of aesthetics and physical settings, personal sensory responses, actions, decision-making, behaviours, conflicts, collaborations and conversations. Reflective information included feelings, ideas, questions, criticisms and concerns that occurred through the observation process (Schwandt 2015).

Additionally, multi-sensory observations occurred whereby any sound, smell, touch or striking visual aspects were noted and described. Sensory ethnography uses the embodied experience and attention to sensory perception as another means of exploration and understanding (Pink 2011). Ethnographers vary in how they approach field notes, with some emphasising the need for detailed and systematic note-taking and use of qualitative coding techniques, while others feel that placing too much interest in note-taking during the observation process may interfere with the interaction the researcher has with what he or she observes (Emerson et al. 2011). This research approach used a systematic field note-taking strategy, as qualitative coding techniques were used. An example of field notes from an interview in Santa Ana Tlacotenco featuring descriptive, reflective, and multi-sensory observations is presented next.

Field diary entry. January 201th 2018, Santa Maria Tlacotenco

After going to the "plaza" Rocio invited me back to her house, we had to climb an improvised stairwell from the front patio. Her home was very basic; it was made of plain cement and had plastic covering the window holes.

The kitchen had some improvised storage and some cooking ingredients on the table. As well as instant coffee, marmalade and breakfast cereal

6.3.5 Photographs

After observations were made, photographs were used to capture physical aspects. Photographs act as mnemonic devices, support an interpretation of a place, and help frame the site, but ultimately, photographs are another source of insight (Emmel and Clark 2011). These photos were used as part of the field diary. Figure 6.3 and 6.4 (below) present how photos supported field diary notes. For example, these images provided a more nuanced understanding of the above-presented field diary entry, as they show specificities of the household as well as the local market. Observations using these captured images supported the reflexive nature of this research and led to new areas of inquiry and empirical insights. Additionally, after each event and site visit, an 'in-process memo' was written freely, exploring any memories, thoughts and/or insights and summarising events (Emerson et al. 2011), while any practical or methodological questions were noted.

Figure 6.3 Local vendor at the Santa Ana Tlacotenco open-air market (Author's photo)

Figure 6.4. Kitchen table showing processed foods at one of the participants' homes(Author's photo)

6.4. Findings

6.4.1 Participant characteristics

The sampling strategy resulted in participants with a range of ages (from the early 20s to 80s), incomes and occupations (varied career types, from students to butchers, entrepreneurs and retired) and household types (singles, couples, flatmates, single parents with children, couples with children, families with extended members and a housing cooperative). The recruitment resulted in a majority of female participants. This outcome is common in studies concerning shopping behaviours, since women are often in charge of food shopping at a household level, independently from having a housewife status (Miller 1998). Table 6.2. presents the characteristics of each participant.

Name	Age	Household size	Occupation	Interview place (type)
Jardines del Pedregal				
Sonia	71	4	Housewife	Superama Pedregal (limited selection supermarket)
Grace	72	2	Housewife	Superama Pedregal (limited selection supermarket)
Magdalena	74	2	Housewife	Superama Pedregal (limited selection supermarket)
Jorge	70	3	Entrepreneur	Mega Comercial (hypermarket)
Lucero	56	3	Housewife	Superama Pedregal (limited selection supermarket)
Ana Bertha	60	5	Economist	Mega Comercial (hypermarket)

Luz	65	1	Translator-interpreter	City Market (luxury supermarket)
Alejandra	46	5	Entrepreneur	City market and Superama (luxury supermarket and limited selection supermarket)
Tlatelolco				
Arturo	72	1	Retired teacher	Mega Comercial Tlatelolco (hypermarket)
Enedelia	68	5	Housewife	Beethoven Market (marketplace)
Quique	26	4	Unemployed	Street market Tlatelolco (street market)
Eliel	30	6	Policeman	Mega Comercial (hypermarket)
Lupita	50	3	Physics teacher	Superama Polanco and Costco (limited selection supermarket and wholesale club)
Guadalupe	82	2	Housewife	Mega Comercial (hypermarket)
Adriana	35	2	Administrative worker	Mega Comercial (hypermarket)
Jimena	27	1	Administrative worker	Street market Tlatelolco (street market)
Santa Ana Tlacotenco				
Sra Flores	82	2	Housewife	Plaza Santa Ana (open-air vendors)
Manuel	45	5	Butcher	Santa Ana Market (marketplace)
Concepcion	50	4	Poultry vendor	Plaza (open-air vendors)
Sra Flores	64	4	Agriculture	Plaza (open-air vendors)

Leslie	29	6	Teacher	Plaza (open-air vendors)
Josefina	56	6	Agriculture/admin	Plaza (street market)
Rocio	41	5	Housewife	Plaza
Trinidad	79	3	Retired	Market and Plaza (street market and marketplace)
Santo Domingo				
Mike and Dulce	35-32	2	Photographer	Street vendors in Santo Domingo
Angeles	36	3	Administrative worker	Soriana (hypermarket)
Edith	47	1	Social worker	Soriana (hypermarket)
Tonalli	29	12	Urban planner	Street vendor
Diego	23	1	Climbing instructor/ student	Aztecas Street market
Emma	27	1	Editor	Iman market (street market)
Eli	22	1	Student	Wal-mart (hypermarket)
Estela	28	2	Student	Coras market (street market)

Table 6.2 Participants characteristics including name, age, profession, and go-along setting

Participants from Jardines del Pedregal had the highest frequency of visits to limited-selection and luxury supermarkets as well as the lowest incidence of visits to street markets and marketplaces. In contrast, interviews from participants living in Santa Ana Tlacotenco and Santo Domingo mostly took place in street markets. Interviews from participants residing in Tlatelolco took place in all types of food outlets including street markets, hypermarkets, limited selection supermarkets and

warehouse clubs. Although most of the interviews were conducted in one food outlet, on two occasions participants attended two. Moreover, participants were asked if they visited other food outlets. Figure 6.5 displays the frequencies of visited food outlets according to each colonia.

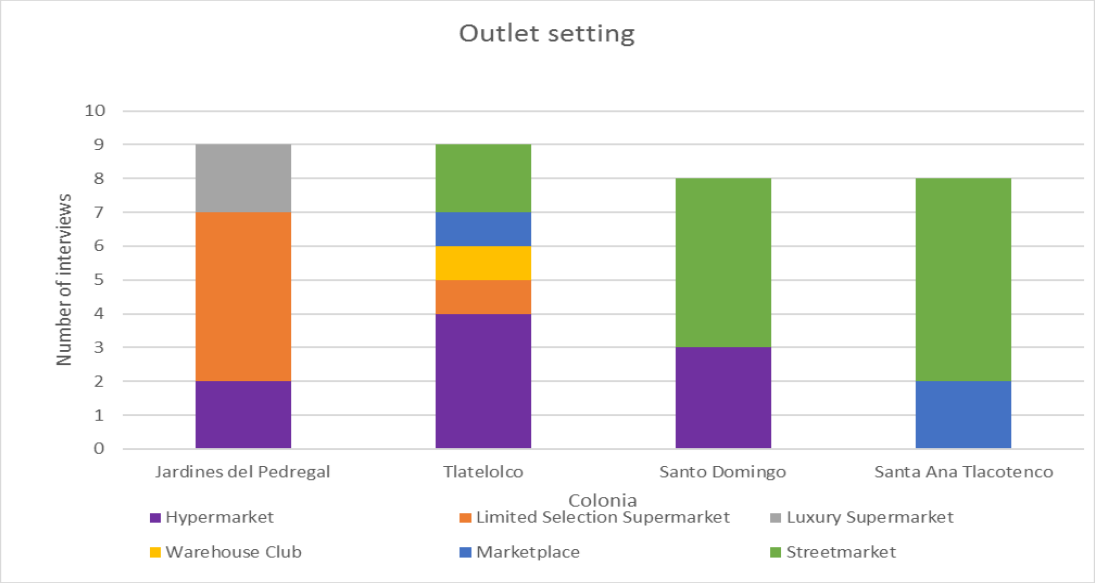

Figure 6.5 The frequency of chosen food outlets for the go-along interviews according to each colonia

6.4.2 Exploring motivations for choosing a food outlet in Mexico City

The analysis of the participants' narratives, supported by ethnographic observations, allowed the motivations for selecting a food outlet to be categorised. The analysis drew out three main themes across the 32 interviews: 1) economic cost; 2) quality; and 3) convenience. The next section describes each one of the elicited themes as well as the included sub-themes. Table 6.3 presents the three main themes and the sub-themes covered in this categorisation.

Main Theme	Sub-themes
Cost	• Cost of fruits and vegetables • Cost of processed food • Price of cooking ingredients and household goods
Quality	• Freshness of products • Brands
Convenience	• Closeness to home or other frequently visited place • Payment mode • Ability to perform other activities

Table 6.3 Themes and sub-themes included in the coding structure

6.4.2.1 Cost

The economic cost was often considered a motivation for selecting a food outlet among the participants. Many of the interviewees found that they sought to shop in places that allowed them to economise as much as possible. This strategy, resulted in participants choosing to shop in different places, searching for the best price of fruits and vegetables, processed goods, cooking ingredients and household products, thus, mixing traditional food outlets with supermarkets.

Concerning fruits and vegetables, the majority of participants (who visited traditional food outlets) considered that the prices of fruits and vegetables were lower in street markets and marketplaces than in supermarkets. A common perception among participants regarding the price of fruits and vegetables in street markets was the different price options between vendors. This perception can be exemplified by Estela's (28, student) comment on the price of tomatoes, during our visit to the Santo Domingo street market:

Interviewer: Do you think these fruits and vegetables would cost the same as a supermarket?

Estela (Santo Domingo): no **(looking at the vegetables**). Supermarkets have a standard price. There is no space for negotiation. Here, for example, we have seen three different prices for tomatoes already.

Concerning the variability of prices, Figure 6.6 shows a vegetable stand in the Beethoven marketplace (near Tlatelolco), where three different prices for tomatoes can be distinguished. As explained in Chapter 2, most of the street markets in Mexico City are not regulated. This characteristic enables producers to skip the supply chains and to sell directly to customers at street markets, making the price of fresh produce lower than in supermarkets (Galvez 2018).

Figure 6.6. Tomatoes of various prices at the Beethoven marketplace. (Author's photo)

At the same time, the lack of price standards allows street market vendors to negotiate prices with costumers or often give extra products in exchange for a big purchase. In many cases, these types of transactions result in the construction of a personal rapport between vendors and customers. On numerous times, interviewees referred to vendors as their “marchantes”[4], and always bought from the same stand. An example of this personal rapport is noted by Alejandra (47, entrepreneur), who called her “marchante” so he could have her purchase sent to her house:

> Interviewer: Do you go to the market?
>
> Alejandra: (Jardines del Pedregal) I ask for it by phone. We already have a “marchante”; thus I ask for everything I need on the phone, it’s super modern. I give him all my list, and he takes it to my house, and I pay him there
>
> Interviewer; why does he go to your house? When did it start?
>
> Alejandra: I used to go to the market before. But one day they did not have avocados, and I was like: “Why don’t you have avocados?” And then he told me that if I wanted to, I could call him and he would bring them to my house. Then all this system started.

For the majority of interviewees, supermarkets offered better prices for processed food. According to the participants, supermarkets offered a vast choice of brands, among which they could select the best price. Moreover, many participants mentioned the promotions that supermarkets had on Tuesdays and Wednesdays.

The lower cost of processed foods in supermarkets, compared to other outlets could be explored in Santa Ana Tlacotenco, where supermarkets and convenience stores

[4] The origin of the term "marchante" is debated among lexicographers. However, most of them agree that it originated from Marchand in French meaning merchant

are not present. Most of the inhabitants of Santa Ana Tlacotenco considered that local vendors offered very high prices of processed foods. As a result, many of the participants opted to have monthly trips to the nearest supermarket to supply their households with the necessary goods. Rocio (47, housewife) explained how her husband went to the nearest “Aurrera” in Xochimilco to get processed products:

> Rocio (Santa Ana Tlacotenco): Well, we go to the Bodega Aurrera in Xochilmilco once a month to get all that kind of stuff. We bring Nescafe, *cajeta* (milk toffee), mayonnaise. Whatever we need of that kind, we get it too. Also frosted flakes for the girls. Well, anything we need really.

Paradoxically, despite having access to locally grown fresh produce, participants from Santa Ana Tlacotenco purchased processed food in outlets that offered the low-quality products. Most of the interviewees in Santa Ana, visited "Bodega Aurrera", a low-cost supermarket offering energy-dense processed food. This finding can relate to previous literature affirming that low-income populations have greater access to low quality processed food compared to more advantaged communities (Morland et al. 2002; Zenk et al. 2005a; Zenk et al. 2005b; Holser et al. 2016).

Concerning the shopping for household products and cooking ingredients, the majority of the participants agreed that prices were lower in supermarkets and warehouse clubs. Many of the participants expressed the cost-efficiency of buying household goods in wholesale quantities. In the case of households with a more significant number of people, household goods were found to be less expensive at warehouse clubs. For example, Ana Bertha (60, economist) pointed out the advantage of buying cooking ingredients in wholesale quantities:

> Ana Bertha (Jardines del Pedregal): Well, I do go to Costco and Sam's club. But I buy there, for example, detergent or things that come in large packages which are cheaper. For example, I buy canned beans there, because it is cheaper to buy many cans than to buy them individually. Or even ketchup jars and that sort of things that the packaging is more expensive than the product. So yes, I go there but not for fresh products.

The participants' narratives showed that the price of goods is an essential determinant for choosing a food outlet. The search for a reasonable price, in many cases, resulted in participants visiting various outlets. Most of the participants agreed that street markets and marketplaces offered lower prices of fruits and vegetables, while supermarkets and warehouse clubs had cheaper processed products. These findings contrast with previous research regarding supermarkets offering better prices of fruits and vegetables (Franco et al. 2008; Morland et al. 2009; Gasca et al. 2014). However, the vast majority of this research has been carried out in developed countries, where supermarkets are the dominant format of food and grocery retailing (Wrigley et al. 2009; Moore et al. 2006; Dubowitz et al. 2015). In the case of Mexico, and other developing economies, traditional food outlets still play an essential role, mainly since they offer better prices for fresh produce.

6.4.2.2. Quality

Perceived food quality was a prevailing motivation for choosing a food outlet among participants. Two main patterns could be elicited regarding participants views on food quality. Most of the interviewees related to the quality of products with

freshness. Furthermore, many of the participants considered that the variety of processed foods was linked to their brand.

The freshness of fresh produce was often considered better in street markets and marketplaces. Most of the interviewees that visited markets and supermarkets believed that the difference in fruit and vegetable quality between the two types of outlets was striking. Alejandra (47, entrepreneur), explained that even though she spends most of her food budget at the supermarket, she preferred to buy fruits and vegetables at the marketplace:

> Interviewer: Which differences do you perceive between fruits and vegetables bought at the supermarket and the ones in the market?
>
> Alejandra (Jardines del Pedregal): Oh, no! It's completely another thing. The one from the supermarket is like frozen. It can last forever. For example, apples can last up to five weeks. I feel that they are transgenic or something. Well, I don't know. Also fruit, I feel like they freeze it and then unfreeze it, I don't know. I don't like it.

Concerning freshness, for many of the participants, the freshness of the tortillas was crucial for many interviewees. Tortillas are considered one of the main staple in the Mexican diet and are consumed in large quantities in most households (Rivera et al. 2002). Disregarding household income, the freshness of tortillas was perceived to be better at traditional outlets. For instance, Magdalena (74, housewife) considered that the tortillas that were sold at her local limited-selection supermarket in Jardines Del Pedregal were not fresh enough:

> Interviewer: Are you buying the tortillas here?
>
> Magdalena(Jardines del Pedregal): No, my housekeeper brings them to me. She buys them near her house. I feel they are better and fresher.

In places like Santa Ana Tlacotenco, many of the residents still make their tortillas, taking their corn to the mill mix to convert it into tortilla dough–this process is often referred to as *nixtamalization* and involves mixing the corn in an alkaline solution. Figures 6.7 and 6.8 shows the process of making tortillas at a local mill in Santa Ana Tlacotenco, from soaking the corn in limewater to producing the dough in the mill.

Figure 6.7 Blue mais soaking in limewater. Santa Ana Tlacotenco (Author's photo)

Figure 6.8. Corn mill Santa Ana Tlacotenco (Author's photo)

Another aspect concerning the quality of products is the vast choice of fruits and vegetables that street markets and markets offer, compared to supermarkets. Many of the participants commented that the selection of traditional Mexican produce was greater at street markets than at supermarkets. This difference was noted by Jimena (27, administrative employee) while visiting the Tlatelolco street market:

> Jimena (Tlatelolco): At supermarkets, there are many things. Some of them are cheaper. But here at the market, you can find many different things. For example, right now, we are buying fresh corn, which you rarely find at supermarkets, also courgette flowers. You would never see this kind of stuff at the supermarket; they always sell the same things

While the freshness of produce was considered essential to most of the interviewees, the main characteristic that denoted quality in processed food products was branding. For many participants, brands were recognised as a guarantee of quality from the manufacturers. In many occasions, participants did not refer to products by their name, but by their brand. For the majority of the participants, supermarkets were the place where they could find the brands that they looked. For Lupita (50), physics teacher) explained that finding her favourite brands was one of the main reasons for her to go to Superama (a limited selection supermarket):

> Interviewer: Why do you buy cheese here?
>
> Lupita (Tlatelolco): Well, I like the Esmeralda Oaxaca cheese. And you can always find it at Superama, that's why I like this place. I am very picky concerning brands. My family always complains that if things are not from a given brand, I don't buy them. But I think that if you have already tried something, you know what to expect.

The association between quality and brands can relate to the penetration of transnational food companies into Mexican foodscapes in the last three decades (Bridle-Fitzpatrick 2016). The increased presence of multinational food companies not only raised the availability of ultra-processed foods but also changed dietary aspirations and expectations. Global marketing strategies have linked brands to lifestyles; creating expectancies towards certain brands (Small et al. 2007).

The accounts provided by the interviewees showed that several people base their shopping choices on the products' qualities. In a similar manner to cost, differences in quality drive costumers divide their shopping into different outlets ranging from local street markets to limited selection supermarkets. The perceived differences in quality were often related to traditional Mexican food products. While supermarkets represented a source of processed products of many brands, street markets and markets were considered the best outlets for finding traditional ingredients.

6.4.2.3 Convenience

Convenience came across as a critical factor for choosing a food outlet among participants. In this research, convenience is defined as the ability to save time and minimise the physical and mental effort associated with food shopping and its preparation (Scholderer and Grunert, 2005). Three types of convenience could be elicited from the interviews: 1) convenience related to the closeness of the food outlet, either from their house or from places included in their daily routine; 2) convenience related to the ability to pay with different payment modes (e.g. cash, credit cards, coupons, social security cards); and 3) convenience associated with enabling other activities at the same venue.

Proximity to food outlets was often regarded as an influential determinant for choosing a food outlet. The majority of participants preferred to visit outlets close to their households to save time and effort; however, some participants visited outlets close to their workplace or another of their daily activities. Diego (22, climbing instructor/student), explained the convenience of closeness, who after moving to Santo Domingo decided to visit his local street market rather than the supermarket:

> Interviewer: Why do you prefer to come here?
>
> Diego (Santo Domingo): First of all because I realised it was way easier. Before, in the beginning, when I had just moved here, I continue to go to the supermarket because I used to live next to Wal-Mart in Copilco. But here, the closest supermarket is Soriana, but I had to go across the metro station, the store was always full of people, and then I had to come back with all the bags.
>
> But then I realised that when I woke up on Thursday mornings, there was a street market just outside. So one day I said: "why not?" and I tried it. The only thing is that they are not here every day, but once you get used to that it's pretty cool.

The acceptance of various payments modes was also seen as a way of minimising efforts. Many of the participants visited supermarkets because they accepted multiple types of payments, including credit cards, food coupons (often provided by their employers) and seniority cards[5].

In some cases, supermarkets were considered the only food outlet al.ternative for participants who did not count with cash. Such was the case of Edith (47, social worker) for whom supermarkets were the only alternative:

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[5] In Mexico City all senior citizens (70+) are entitled to receive a seniority card which grants them with 700 pesos (£40) per month

Interviewer: Why are we here?

Edit (Santo Domingo): The thing is that right now, there have been problems at my workplace due to the change in administration. Thus, we got food coupons in December, but they stopped paying us. In January, I received two weeks of pay, but not the rest. The only thing I have to buy food are these coupons. Otherwise, I would buy food at the street market.

In the case of food coupons, supermarkets often offer promotions for customers to use their cards in their stores. Figure 6.9 shows an advertisement at a hypermarket in Tlatelolco, where they offered to reimburse 10 per cent of your shopping when using cards granted by the government of Mexico City. Many government employees receive food coupons as a form of bonus twice a year.

Figure 6.9. Announcement indicating a promotion conditioned to paying with food coupons. Mega Comercial Tlatelolco (Author's photo)

Participants also referred to convenience in terms of places, allowing them to conduct other activities such as going to the bank, eating, or buying other non-edible goods. In the case of attending the bank or other administrative services,

hypermarkets in Mexico City often include administrative services within their venues such as bank branch offices, tax offices and driver licence bureaus. The contiguity of these services makes hypermarkets a convenient shopping place for many of the participants. For example, Mike (35, photographer) explained that the closest Wal-Mart has a bank and they usually do the shopping when they have to go to the bank:

> Interviewer: When do you go to Wal-Mart?
>
> Mike (Santo Domingo): Well, the thing is that the bank is there. So I have to go there to cash my monthly cheque. It is just practical to go there after and buy all the stuff we need

Many of the interviewees that visited street markets mentioned that they would also eat there. The informal character of street markets allows the presence of food stands offering a vast variety of traditional Mexican dishes (Long-Solis 2010). Emma (28, editor) argued that she visited the Iman street market every week because she could have brunch there as well:

> Emma (Santo Domingo): I like it here because they have really good food. We often come here for lunch or brunch **(referring to her and her friend).** They sell so many things like *pozole* (a corn-based soup) *pancita* (pork belly), and today I had *enchiladas.*

As well as food stands, street markets offer various goods such as clothes, pirated items, perfumes and toys, to name a few. Figure 6.10 shows the variety of stands that can be found at the Tlatelolco street market. Considering the diversity of things that can be found in a street market, many of the participants affirmed they also visited supermarkets because they wanted to *chacharear.* The latter term refers to

the act looking for trinkets without a particular purpose. Dulce (29, student) commented that she often found unexpected things while going to the street market:

> Interviewer: Do you like going to the street market?
>
> Dulce: (Santo Domingo) Yes, of course
>
> Interviewer: Why?
>
> Dulce: Because I love to chacharear
>
> Interviewer: What sort of things do you find there?
>
> Dulce: Mostly hair accessories, like bobby pins and elastics. Although the other day, I found a dress, an amazing dress with sequin. I wore it last week to go dancing.

The participants who mentioned *chacharear* as one of their parallel activities often considered attending a street market as a leisure activity. This kind of behaviour can relate to Bauman's (1998) argument on shifting consumption modes. The author states that modern societies tend to be based on consumption rather than on production and therefore people tend to base their everyday activities around consumption.

Figure 6.10. Stands at the Tlatelolco street market. (Author's photo)

While most of the literature on food outlets and diet relates convenience to proximity and density to dietary patterns, convenience can also be considered in terms of minimising any effort (Charriere et al. 2010; Caspi et al. 2102; Scholderer and Grunert, 2005). The narratives from the participants exhibited that minimising physical and mental effort could involve the ability to pay with a credit card as well as finding different services in the same venue.

6.5 Summary

This chapter explored how individual, contextual and social factors contribute to the selection of food outlets in four areas in Mexico City. In contrast to the three previous empirical chapters, this chapter followed a qualitative approach; conducting 32 go-along interviews in different food retailers. The analysis of the participants' accounts showed that the motivations for choosing a food outlet depended much on three main themes: cost, quality and convenience. The exploration of these three themes, enabled understanding that traditional food environments were primarily chosen because of the quality and price of fresh produce, while supermarkets were selected for their selection of processed foods and their availability to accept different payment methods. These findings demonstrate that shopping behaviours are dynamic and relational, and therefore cannot be studied through a simple contextual model.

The next chapter will discuss the contributions of this thesis to the wider literature.

7. Discussion and Conclusions

7.1 Introduction

This thesis aimed to examine the relationship between trade liberalisation and the food supply chain by exploring the consequences of commercial determinants of health at three geographical scales: global, city-level and household-level. This thesis began with an assessment of the impacts of trade liberalisation in 146 countries from 1990 to 2013. At a second scale, this thesis explored food retailing environments in Mexico City according to area-level deprivation and tested its relationship with household-level food-expenditure. Finally, it explored individual reasonings for the selection of food outlets in Mexico City.

The importance and originality of this work rely on the evaluation of the effects of macro-economic processes at three scales. Moreover, this thesis contributes to the study of commercial determinants on health by understanding the impact of neoliberal economic policies in the food supply chain.

Internationally, this thesis is the first study that explores the relationship between trade liberalisation and food supply chains through the construction of a composite indicator. Furthermore, this is the first study that analyses the link between supermarket density and deprivation through a longitudinal approach. This thesis constitutes the first research linking food-expenditure data to outlet density in Mexico City. For an international assessment, Chapter 3 explored the effects of trade liberalisation through two approaches. The first approach included the construction of the Food Liberalisation Index (FLix); merging three proxy variables that exemplified food processing, imports of energy-dense foods, and the presence

of transnational food companies. FLix was then compared to adult BMI for males and females, showing significant and increasing associations between 1991 and 2013.

The second approach included a group trajectory analysis between 1991 and 2013 of the three variables involved in FLix. The trajectory groups allowed countries to be grouped according to their changes for each of the three variables, showing that high middle-income countries have gone through the most acute changes during the study period.

At a local level, Chapter 4 showed the relationship between food-outlet density and deprivation through a longitudinal and a cross-sectional approach. The longitudinal approach analysed changes in supermarket density and deprivation from 1990 to 2015, suggesting that the simplest type of supermarket (i.e. bodega) has increased the most in more deprived areas during the study period. The cross-sectional approach included an exploration of densities of street markets, marketplaces and convenience stores in 2015.

Using the food outlet densities calculated in Chapter 4, Chapter 5 examined the association between food outlet density and household expenditure on fresh and processed foods. The findings showed that households located in areas with higher densities of supermarkets and convenience stores had higher expenditures on ultra-processed foods. In contrast, households located in areas with high densities of street markets had higher expenses for fresh food.

Finally, Chapter 6 qualitatively explored individual motivations for selecting a food outlet through a series of go-along interviews. The interviews were comprised of residents of four areas with different levels of deprivation and took place while participants did their food shopping. The analysis of the participants' accounts

suggested that motivations for selecting a food outlet depended much on cost, quality and convenience.

This chapter analyses and discusses the findings from Chapters 3, 4, 5 and 6, making use of the overall body of scientific literature concerning trade liberalisation, food supply chains, food environments, health and the nutrition transition. This chapter also discusses the strengths and limitations of this thesis, as well as further research possibilities in the field. Lastly, this chapter includes a conclusion summarising of the main contributions of this thesis.

7.2 Global changes in food supply chains

The results from Chapter 3 demonstrated that global food supply chains had changed significantly between 1991 and 2013. These results agree with the overall evidence regarding food systems and trade liberalisation; indicating that the opening of trade and investment barriers impacted how food is produced, traded and distributed, favouring the availability of energy-dense foods (Baker et al. 2016; Hawkes et al. 2009; Thow et al. 2011, Clark et al. 2012; Barlow et al. 2017). Table 7.1 summarises the results from the trajectory models, describing each one of the trajectory groups for the three indicators used as proxy variables for the assessment of food processing (soybean oil supply), energy-dense food imports (confectionery sugar imports) and, presence of TNCs (FDI inflows).

Trajectory groups	Number and description of trajectory groups
Per capita soybean oil supply	
	1. Slow but steady growth with low starting soybean oil supply values
	2. Slight decrease during the study period with medium soybean oil supply values
	3. An acute increase from medium to high values of soybean oil supply
	4. Remains at a constant high supply of soybean oil and low increase
Per capita sugar confectionery imports	
	1. Steady growth with very low imports at the beginning of the study period
	2. An acute increase from low to medium values
	3. High starting values and a marked increase throughout the study period
	4. High values with a steady low increase throughout the study period
Per capita FDI inflows	
	1. An acute increase from low to medium FDI inflows
	2. Steady increase within FDI inflows
	3. An acute increase from medium to very high FDI inflows
	4. High values with a steady but low increase of FDI inflows

Table 7.1 Trajectory groups for per capita soybean oil supply, per capita sugar confectionery imports, and per capita FDI inflows. Source: FAO stat

The analysis of the three proxy variables showed that high and high-middle income countries had the highest values of soybean oil supply during the study period, while low and low-middle income countries had lower values throughout the study period. Two explanations can be elicited from these results. First, the increasingly high values in high and middle-income countries can be linked to the fact that middle-income economies have opened their trade barriers as a strategy for economic growth (Barlow et al. 2017). This strategy enabled increased production of ultra-processed food, thus, increased the supply of soybean oil (Hawkes 2010; Barlow et al. 2017).

Secondly, as discussed in Chapter 2, the high increase in values for low and low-middle income countries relates to the implementation of agricultural policies for the production of oil seeds derived from the AoA (Hawkes 2010; Watts 1999). These policies incentivised the production of soybean in countries like Indonesia and Malaysia. As a result, in the past two decades, soybean oil has become widely accessible, enabling it to become a non-expensive ingredient for ultra-processed foods (Baker et al. 2016, Hawkes 2010; Watts 1999).

Regarding imports of energy-dense foods, high-income countries showed the highest values throughout the study period. Middle-income countries had the highest increase at the same time. This increase suggests that middle- income countries have favoured imports of energy-dense foods since the opening of trade barriers (Barlow et al. 2017). Following this argument, Hawkes et al. (2010) stated that the increase of imports in LMICs enabled prices of imported energy-dense foods to drop, thus making them more accessible for the overall population (Hawkes et al. 2009; Clark et al. 2012; Thow et al. 2011).

Throughout the study period, FDI inflows increased the most in LMICs such as India, Togo and Pakistan. These findings suggest that these countries have undergone the most changes in their food systems since the opening of trade barriers, thus demonstrating the impact of TNCs. These results corroborate evidence from India and Pakistan showing an acute transformation of food supply chains since the 1990s, particularly related to fast-food chains (Naqvi et al. 2013; Ehsan 2013; Pingali 2007).

7.2.1 BMI and changes to the food supply chain

Chapter 3 explored the overall impact of trade and investment liberalisation on food supply chains with the construction of FLix. The relationship between FLix and BMI change from 1990 to 2013 was assessed using random effects linear regression. The results showed that BMI change was positively and significantly ($p<.001$) associated with FLIx for both males and females. The random effects regression evidenced that for a one-unit increase on FLix BMI increased 0.83 for females and 0.818 for males.

These results are in line with those of previous studies stating that the opening of trade barriers, particularly in LMICs, is closely related to the increase of obesity levels in the last three decades (Miljkovic et al. 2015; Hawkes 2006; Thow et al. 2009; Schreker et al. 2008). Furthermore, evidence suggests that although globalisation has economic benefits, its effects have contributed to the global burden of NCDs, by supporting the access and availability of unhealthy commodities such as alcohol, tobacco and processed food (Thow et al. 2015).

The relationship between trajectory groups and BMI was also explored through random effects panel regression. The results from the regression were not

statistically significant, however, the variation between changes in BMI for males and females could lead to further analyses. For instance, FDI trajectory groups had a positive effect on females, yet, the effect for males was negative. Contrastingly, for sugar confectionery imports the effect was mainly negative for females and positive for males.

The lack of statistically significant results when analysing the effect of trajectory groups on BMI further supports the idea that trade liberalisation on food systems is more effectively analysed as a whole. Thus, the use of a composite indicator as FLix proves to be a useful tool for understanding food liberalisation effects on health.

Overall, findings from Chapter 3, demonstrate the importance of using commercial determinants of health as a conceptual framework. This framework evidences that TNCs are one of the main drivers of obesogenic food environments (Kickbusch et al. 2016). Such understanding states that private corporations disseminate products detrimental to health by modifying food supply chains, thus increasing the availability and accessibility of energy-dense foods (Kickbusch et al. 2016; Lang and Headman 2004; Barling 2007). These findings add to the overall body of evidence on commercial determinants of health, explaining how macro-level processes have a meaningful impact at the local level, particularly in LMICs.

The next sections explain how these processes have shaped food environments in Mexico City and their relationship with deprivation and food expenditure.

7.3 Changes in Mexico City's food-retailing environment

As explained in Chapter 2, the opening of Mexican trade and investment barriers enabled the entrance of TNCs into the production, processing and retailing of food. One of the most visible changes was the expansion of food retailers such as supermarkets and convenience stores. Chapter 4 evidenced that, for Mexico City, these changes were visible through the expansion of various types of supermarkets, convenience stores and street markets since the early 1990s. Table 7.2 shows the increase in supermarkets, convenience stores and street markets between 1970 to 2010 in Mexico City.

Food Retailer	1970	1980	1990	2000	2010
Supermarkets	14	35	65	232	310
Convenience stores	31	49	433	1520	1600
Street markets	532	718	985	1066	1380
Population (in millions)	6.9	8.8	8.2	8.8	8.9

Table 7.2 Number of supermarkets, convenience stores and street markets in Mexico City in 1970, 1980, 1990, 2000, and 2018

It can be argued that the expansion of these three types of food retailers is closely linked to the increasing control of TNCs over Mexican food supply chains. As explained in Chapters 2 and 4, the expansion of supermarkets and convenience stores was possible due to shifts in foreign investment laws, permitting total ownership for international companies (Clark et al. 2012; Gutierrez-Haces 2004). Such processes allowed trans-national supermarket and convenience store chains to undergo a series of mergers and acquisitions with Mexican food retailers (Chavez

2002; Gasca and Torres 2014). As a result, Wal-Mart now owns more than 70 per cent of supermarkets in Mexico, and Oxxo (owned by the local Coca-Cola distributor) controls more than 80 per cent of convenience stores (Gasca and Torres 2014; Gasca 2015).

The increase of street markets in Mexico City links to the control of TNCs in food supply chains (Galvez 2018). The opening of investment barriers in Mexico led to corporation control of agriculture, which, in turn, left small-scale farmers with minimal alternatives to distribute their food products (Faux 2006). As a result, the amount of street food stands and street markets has increased at unforeseen rates since the early 1990s. Since most of the street vendors operate illegally, official data on the geographical expansion of street markets do not exist. However, it is estimated that they have increased more than threefold since 1990 (Gasca 2014; Long-Solis 2010). The illegality of street markets enables producers to sell directly to customers, hence, facilitating sellers to offer less expensive fresh produce than supermarkets.

The findings previously discussed demonstrate that the current mix of food-retailers in Mexico City is a result of the opening of trade and investment barriers. Empirical evidence suggests that the distribution of food-outlets is significantly associated with socio-economic conditions. The next two sections explain the relationship between food-outlet densities and deprivation through a cross-sectional and a longitudinal approach.

7.3.1 Food outlet density and deprivation in Mexico City

Chapter 4 aimed to gain insights into the relationship between outlet density and deprivation in Mexico City. Descriptive statistics and Pearson-correlation were used to explore the link between area-level supermarket density and deprivation quintiles. This assessment included the exploration of four types of outlets: convenience stores, supermarkets, street markets and marketplaces. This assessment was cross-sectional and used Basic Geo-Statistical Areas (AGEBs) as spatial units of analysis.

The results showed that more affluent areas had higher densities of convenience stores and supermarkets. These findings are consistent with literature suggesting that the expansion of "new" retailers in LMICs, such as convenience stores and supermarkets, begins in affluent areas (Reardon et al. 2010; Reardon and Berdegué 2005; Chavez 2002). The process has also been referred to as "supermarketisation" and states that supermarkets begin their expansion by offering non-perishable foods and slowly gain control of the distribution of all food products (Dixon and Banwell 2016; Reardon et al. 2010; Reardon 2015).

The distribution of street markets did not follow a clear social gradient. In other words, street markets were present in all areas regardless of area-level deprivation. A possible explanation may be that street markets continue to be an essential part of Mexican foodscapes and have been since pre-colonial times (Long-Solis 2010). Moreover, street markets are itinerant; thus, they can travel to various parts of Mexico City. These findings match those observed in previous empirical studies from other LMICs (e.g. Kenya, Brazil, Guatemala and India), stating that street markets play an essential role in everyday foods-capes (Kelly et al. 2014; Banwell et al. 2013; Swinburn et al. 2019).

The results also showed that marketplaces were concentrated in areas of the third and fourth deprivation quintiles. The concentration of marketplaces in middle–income areas can be explained in part by the context in which market places were established in Mexico. Marketplaces were founded in Mexico City between the late 1930s and early 1940s to concentrate street vendors (Ladrón de Guevara 2018). Therefore, the convergence of street markets in old and central neighbourhoods of Mexico City would explain their concentration in middle-income areas.

Overall, these findings contribute to an understanding of food-outlet distribution in Mexico City. The evidence obtained suggests that while “new” outlets tend to be in affluent areas, street markets are a common part of foodscapes, regardless of area-deprivation level. Understanding the distribution of food outlets, according to deprivation, is essential to explain differences in food availability across the social spectrum. The next section describes how supermarket density has changed concerning area-level deprivation in Mexico City from 1990 to 2015.

7.3.2 Supermarket density change and area-level deprivation in Mexico City

Chapter 4 also assessed changes in supermarket density from 1990 to 2015 in Mexico City with area-level deprivation. This exploration allowed different types of supermarkets to be distinguished according to their size and product availability. The supermarket categorisation proposed by Gasca and Torres (2014) was used to identify five types of supermarkets: wholesale clubs, hypermarkets, standard supermarkets, limited selection retailers and bodegas. The relationship between supermarket expansion and area-level deprivation was explored using analysis of variance (ANOVA) to test the differences in outlet densities according to deprivation quintiles between 1990 and 2015.

Two main findings can be drawn out from the analyses. First, the increase of limited selection supermarkets had the most substantial change in the least deprived areas. These findings are not surprising, taking into account that this type of supermarket offers various luxury products such as imported wines, cheeses, and organic produce.

Second, the growth of limited selection supermarkets in Mexico City is linked to the presence of Wal-Mart, which was the first supermarket chain to establish limited-selection supermarkets in Mexico. (Chávez 2002; Marrón-Ponce et al. 2019). Taking advantage of the opening of trade barriers, Wal-Mart launched Suprema in 1991 as a means to distribute luxury imported products to middle and high-income populations. The success of this type of supermarket led to the opening of supermarkets with a similar format by other supermarket chains like Soriana and Chedrahui (Gasca and Torres 2014).

The results showed that the growth of bodegas during the study period was significant in areas in the fourth deprivation quintile. These findings suggest that the growth of bodegas has been particularly substantial in deprived areas. Bodegas constitute the simplest type of supermarket; they are small warehouses offering non-perishable foods (e.g. rice, beans, and canned goods) and packaged processed foods (Cruz et al. 2003; Chávez 2002). The growth of bodegas was supported by the alliance of Mexican food-retailer Aurrrera, which had established bodega-format supermarkets in working-class neighbourhoods in Mexico City since the 1970s (Chávez 2002). In this context, the initial merger, and the further acquisition of Aurrerá, gave the supermarket chain sufficient capital to expand bodegas since the 1990s (Dussel 2000; Marrón-Ponce et al. 2019).

The implications of the growth of limited-selection supermarkets and bodegas in opposite ends of the deprivation spectrum in Mexico City raises attention to the increased access to ultra-processed food. While affluent areas have increased their access to high-quality foods, deprived areas have increased their availability to low quality processed foods. To understand how outlet density influences food consumption, the next section explores and discusses the associations between food-outlet densities and household food expenditure.

7.3.3 Food outlet density and food-expenditure

Using the food-outlet density measures obtained in Chapter 4, Chapter 5 assessed their relationship with household food expenditure in Mexico City. This assessment was conducted using food expenditure data from the 2013 Mexican Expenditure Survey (ENGASTO, 2013). The NOVA food classification was used to group foods according to their level of processing (Monteiro et al. 2017). This chapter used linear regression to understand the link between food outlet densities and food expenditure.

To stratify the sample according to the proportion of the food budget spent in each type of food, expenditures of fresh and ultra-processed foods were expressed as a percentage of total household food expenditure and then divided into quintiles. Table 7.3 presents the household budget al.located for processed and fresh food according to KDE density quintiles. The results from the regression models showed that households with higher expenses on ultra-processed foods were in areas with higher densities of supermarkets and convenience stores compared to other types of outlets.

Type of outlet	Outlet densities (in KDE quartiles)	% of the food budget al.located to fresh food	% of the food budget al.located to ultra-processed foods
Supermarket	0	62.71	25.07
	1	62.71	25.69
	2	62.03	26.45
	3	63.23	27.35
	4 (highest)	59.47	28.75
Convenience Stores	0	65.27	22.22
	1	65.76	22.72
	2	59.39	27.92
	3	61.54	27.48
	4(highest)	59.28	30.15
Marketplaces	0	67.69	21.67
	1	63.68	24.67
	2	61.16	26.20
	3	60.68	27.58
	4(highest)	59.47	29.25
Street markets	0	62.80	25.55
	1	55.93	29.55
	2	63.73	25.36
	3	58.16	30.33
	4(highest)	64.03	24.84

Table 7.3 Percentage of food budget al.located to fresh and processed foods according to KDE-density quintiles by type of outlet

For convenience stores, these results are consistent with the overall body of evidence suggesting that higher availability and access to convenience stores is linked to higher consumption of processed foods (Morland et al. 2006; Powell et al. 2007; Morland et al. 2002; An and Strum 2012; Boone-Heinoen et al. 2011). It is essential to note that many of these studies have been conducted in the context of food deserts, where convenience stores represent the only available food retailer (Walker et al. 2010; Richardson et al. 2011; Caspi et al. 2012). Therefore, it is essential to understand the contextual differences between studies, which may lead to other possible explanations.

In contrast to previous evidence concerning diet and supermarket density, these findings showed that households located in areas with high densities of supermarkets allocated a significant percentage of their food budget on ultra-processed foods (Laraia et al. 2004; Reardon et al. 2010; Caspi et al. 2012). The positive association between supermarket density and high expenditure on ultra-processed goods can be explained by understanding how the expansion of supermarkets facilitated the distribution of ultra-processed foods in Mexico (Galvez 2018; Gasca and Torres 2014).

The results suggest that the size, capital, and supply system of chain-supermarkets facilitated the mass distribution ultra-processed foods in LMICs (Schwentesius and Gómez 2008; Hawkes 2010; Reardon et al. 2010; Reardon and Berdegué 2005; Popkin and Reardon 2018). Parallels can also be drawn between these results and evidence suggesting that the per capita daily intake of ultra-processed foods in Mexico increased from 225.8 kcal in 1984 to 414.9 kcal in 2016 (Marrón-Ponce et al. 2019).

In turn, findings concerning fresh food expenditure showed that households in areas with high densities of street markets allocated a greater part of their food budget fresh food. As explained in section 7.3.1, the lack of regulation of street markets allows small farmers to sell directly to customers at a lower cost than supermarkets (Gasca 2015; Duhau and Giglia 2007; Long-Solis 2010). Moreover, the direct distribution and the lack of sanitary regulations also enables farmers to sell a greater variety of fruits and vegetables in street markets, compared to supermarkets (Gálvez 2018).

As explained in Chapter 5, the results of this analysis have various limitations. Firstly, the lack of longitudinal data challenges the causality of the relationship between food density and food expenditure. To determine the causality of a relationship, the outcome depends on a sequence of events taking place in a determinate temporal order (Tarling 2009). Thus, the results from the associations between outlet density and food expenditure may not be considered as causal, since they do not assess longitudinal change in outlet density. Secondly, the decreasing significance of associations when the models were adjusted for the presence of other outlets may indicate that food expenditure may be associated with the presence of various outlets.

In summary, the results from Chapter 5 give evidence towards part of the relationship between food environments and expenditure patterns in Mexico City. The previously discussed findings reveal that outlet density plays an important role in determining food expenditure in fresh and ultra-processed foods, although results should be interpreted with caution. To explore the individual motivations for choosing a given food-retailer, the next section explains the findings from Chapter 6,

investigating a series of go-along interviews carried out in various food-outlets in Mexico City.

7.3.4 Motivations for choosing a food outlet in Mexico City

The results from Chapters 4 and 5 showed that Mexico City has a mix of food-retailers, which holds an active link with area-level deprivation and household food expenditure. Thirty-two go-along interviews were conducted in Mexico City to understand how individual, contextual and social factors contribute to determining the selection of food outlets. The interviews took place in four neighbourhoods with different levels of deprivation during the participants' quotidian food shopping trips.

The analysis of the participants' accounts showed that motivations for choosing a given food outlet relied on three essential themes: cost, food-quality and closeness. By using these three themes, it was possible to understand that participants who shopped in street markets and marketplaces based their shopping decisions on price and quality of fresh produce. As explained in the previous sections, this finding is in line with the fact that street markets in Mexico City can distribute a greater variety of fresh foods at a lower cost than supermarkets (Galvez 2018; Long-Solis 2010).

Since street markets and marketplaces group various vendors, participants indicated that this allowed them to choose according to their budget and quality standards. Moreover, the analysis of the interviews showed that participants' who decided to shop at street markets and marketplaces often developed a personal bond with their vendors, which led them to negotiate prices. These results show the significant role of traditional retailers in Mexican foodscapes. As explained in

Chapter 4, street markets have been present in Mexico City since before colonial times and continue to be an essential part of food-retailers (Long-Solis 2010; Duhau and Giglia 2007).

Participants' choice to shop in supermarkets was based on the vast selection of processed foods and the possibility of paying with different methods. As explained in Chapter 2 and the previous section, the size, supply channels and capital of supermarket chains have allowed them to distribute a broad range of processed foods (Hawkes 2010; Gasca 2015). Furthermore, as discussed in Chapter 6, the payment options of supermarkets have made them an alternative for people who rely on government food coupons or credit cards.

Finally, disregarding the chosen food outlet, many of the participants explained that closeness was an essential factor in selecting a food retailer. Most of the participants preferred to shop in food outlets close to their households or daily activities. This finding connects with the results from Chapter 5, where food outlet densities were considered determinants for food expenditure behaviours, supporting previous empirical studies indicating that the immediate food environments relate to diet.

7.4. Strengths

The main strengths of this thesis relate to the use of three spatial scales to understand the impact of trade liberalisation in food supply chains using longitudinal and cross-sectional approaches. Concerning the first geographical scale, this thesis made a novel contribution through the construction of the Food Liberalisation Index (FLix) to determine the level of liberalisation of food supply chains for 145 countries.

Since the data for the creation of the FLix was available from 1991 to 2013, it was possible to compare the index scores with BMI during the same study period. Furthermore, the longitudinal analysis of the three variables included in FLix enabled group trajectory analysis. The elicited trajectory groups confirmed the rapid transformation of food supply chains in LMICs since the liberalisation of food trade and investment barriers.

At a city-level, the analysis of supermarket growth and deprivation constituted the first longitudinal assessment of supermarket density in Mexico City. The exploration of supermarket growth contributed to the international body of evidence showing the power and control of TNCs over the food supply chain. The analysis of deprivation and food outlet density allowed the growing differences in food availability in Mexico City to be understood. The results from Chapter 4 suggested that more deprived areas had greater access to low quality processed foods.

At a household-level, the use of the Mexican Expenditure Survey allowed several covariates such as education level and the number of household members to be included. the ability to cover such covariates strengthened the evidence concerning food expenditure patterns in Mexico City. Furthermore, this analysis also allowed the current impact of street markets in Mexican foodscapes to be understood.

Lastly, the inclusion of the go-along interviews permitted a mixed-methods approach. The use of a qualitative approach in the last empirical chapter provided a flexible and open exploration of the subject, allowing the study of social, experiential and nuanced complexities of individual and household motivations for the selection of food retailers in Mexico City.

7.5. Limitations

Limitations in this thesis include the use of proxy variables to describe the three essential dimensions of food supply chains include in FLix. This was due to the absence of variables that could cover a vast spatial and temporal scope. Although the use of proxy variables is common for the construction of composite indicators, their use may not wholly reflect the exact process they convey (OECD 2008, Hrisos et al. 2009).

Another limitation for the construction of FLix was the inclusion of only 145 out of the 182 countries in the current political map. Due to lack of data, states with strict authoritarian regimes (e.g. Cuba and North Korea) do not publish census data. Moreover, many of the current countries did not exist at the beginning of the study period, such as Montenegro, Slovenia, Slovakia, East Timor, and Palau. As for the longitudinal analysis of food outlets in Mexico, it was only possible to include supermarkets. This limitation was due to the lack of access to longitudinal geographical data for retailers such as convenience stores and street markets. While the lack of available information on convenience stores relies on data protection policies from Oxxo (the leading convenience store chain in Mexico as well as Coca-Cola distributor and bottler), the absence of data on street markets is due to their illegal nature. Although the cross-sectional analysis enabled an understanding of the relationship between deprivation and food-outlet densities, a longitudinal approach would have allowed further exploration of the role of food-outlets in the Mexican nutrition transition.

Chapter 5 originally intended to explore the associations between BMI and food-outlet density in Mexico City. However, the sample size of the Mexican Nutrition Survey 2016 (ENSANUT) was not sufficiently large to perform an analysis for

Mexico City. As a response to this limitation, food expenditure data from the ENGASTO 2013 survey was used to help understand how local food environments affect dietary behaviours. Although household food expenditure does not measure nutritional patterns, it has been associated with BMI and deprivation (Kirkpatrick et al. 2012; Chen et al. 2015). For example, a study conducted in Brazil by Canella et al. (2014) showed that a significant household food expenditure on ultra-processed foods was positively associated with BMI and obesity prevalence.

As explained in the previous section, the use of the ENGASTO survey allowed several covariates to be included in the analysis. Although household-level SES was included in the database, the household head education level was used to indicate the socioeconomic position in the analyses. The household SES provided in the survey was built for a national sample and aimed to identify rural poverty; thus, it was not suitable for an urban assessment. Education has been commonly used in epidemiological studies to describe the socioeconomic position (Galobardes et al. 2006). The use of education as a describer of socio-economic level can be justified by its close relationship with employment and income, which can lead to determining socioeconomic position (Smith et al. 1998). Furthermore, it is argued that education also relates to material and intellectual resources that are a result of early life and young adult circumstances (Lynch and Kaplan 2000).

7.6. Policy Implications

The results of this thesis are relevant to global and local organisations. At a global level, findings can be useful for the WTO, the FAO and the WHO as well as other international institutions interested in the consequences of the opening of trade barriers in food systems and health. At a local level, the results are pertinent for

various instances in the Mexican Government and the local authorities of Mexico City such as the Ministry of Foreign Trade, The Ministry of Economic Development and the Mexican Health Ministry.

Chapter 3 showed that trade liberalisation is positively and significantly associated with BMI increase from 1991 to 2013. The results evidenced that for a one-unit increase in FLix, BMI increased 0.83 in females and 0.82 in males from 1991 to 2013. These results dovetail with other studies evidencing that the opening of trade barriers incentivised a greater availability and accessibility to unhealthy foods, thus, accelerating the nutrition transition (Friel et al. 2020; Townsend and Schram 2020; Schram et al. 2019).

Moreover, these results highlight the urgency for international trade policies and regulations to oversee the presence of unhealthy commodities. Trade laws such as the Investor-State Dispute Settlement (ISDS), hinder the power of local authorities to promote healthy diets (Thow et al. 2015). In particular, ISDS allows TNFCs to sue governments if they due not again they desired profits, thus, making governments favour the interests of corporations over public health concerns.

The analysis from Chapter 4 evidenced that since the implementation of NAFTA, supermarket presence in Mexico increased almost five-fold. Results also showed that FDI in food retailers in Mexico allowed the expansion of bodegas in low-income areas and convenience stores in high and middle-income areas. The expansion of these retailers was possible to one of the main conditions of NAFTA: allowing foreign corporations total ownership of companies. This law permitted food retailers such as Wal-mart to expand in low-income areas through the bodega supermarket format. These findings underline the need for policies that control the expansion of food retailers, particularly the ones who offer ultra-processed foods.

Local policies that monitor the distribution of food retailers could be part of the current efforts from the Mexican government to control TNFCs. Such policies include as the recently adopted law on processed food labelling, restrictions for food advertisements for children and, sugar taxation (Colchero et al. 2017; Vargas-Meza et al. 2019; Rincon Gallardo et al. 2016)

The analysed narratives from Chapter 6 showed that people preferred to shop for fresh food in street markets. As previously explained, these results link to the greater variety and lower prices of fresh food in street markets (Galvez 2018). However, these two characteristics are a result of FDI in agricultural production, leading small farmers to operate in illegality. These findings call for agricultural policies that protect local and small Mexican farmers enabling them to participate in the food supply chain through a legal channel and also to ensure crop diversity.

7.6. Future directions

The findings of this thesis offer many possibilities for further research concerning global food supply chains, local food environments, and their relationship with health. The results from this investigation provide future research options for broader issues for health and food geographies.

At a global level, one of the main paths for future research is understanding how changes in global food supply chains have contributed to dietary change. While several country-level studies have assessed the relationship between globalisation and food intake, there is an absence of empirical studies exploring this change as a global process (Hawkes 2005; Hu 2011; Pingali and Khwaja 2011). Further empirical research assessing the longitudinal relationship between globalisation and diet is

essential for understanding the nuances of the nutrition transition, particularly in LMICs.

At a local level, this thesis brings attention to the lack of longitudinal data on food retailers in Mexico City. The construction of a longitudinal data set, including the location of different types of food retailers, would help to better understand how the opening of trade barriers has shaped foodscapes in Mexico. In the case of convenience stores and street markets, the availability of longitudinal spatial data would lead to an exploration of changes in the primary sources of fresh and ultra-processed foods. Moreover, the construction of a longitudinal dataset would enable an assessment of their relationship with deprivation and unequal access to healthy food.

At a household-level, results suggested a significant association between street market density and higher household expenditures on fresh food. These findings highlight the importance of street markets in Mexico City in the distribution of fresh foods. Although numerous ethnographical studies have explored the role of these traditional retailers, further quantitative research is needed to measure their impact on Mexican diets (Crossa et al. 2016; Villegas 2016; Licona-Valencia 2014; Long-Solis 2010; Escalona Aguilar 2010; Duhau and Giglia 2007).

This thesis also offers future research possibilities for broader issues in health geography, involving the impact of macro-economic processes at a local and individual scale. As shown in this thesis, global processes such as trade and investment agreements have had a direct effect on individual-level diets. Furthermore, this research brings attention to future work concerning the growing health disparities triggered by neoliberal economic policies favouring the interests of TNCs

7.7 Concluding remarks

This thesis was the first study testing associations between food supply chains and BMI through the construction of a composite indicator. For Mexico, this is the first longitudinal assessment between supermarket density and area-level deprivation.

By constructing the Food Liberalisation Index (FLix) and linking it to BMI data over 22 years, this thesis made an original contribution to the international field by providing a country-level measure for the liberalisation of food supply chains. Furthermore, by mapping changes in supermarket-density in Mexico City for over 25 years, this thesis identified that access to low-quality processed food has increased in deprived areas, showing inequalities in food access.

At a broader scale, this thesis has contributed to the study of commercial determinants of health by demonstrating the impact of TNCs on the food supply chain at three different scales, and its influence in health and diet. Finally, this research provided relevant evidence of the effects of local-food environments in the diet of Mexico City.

References

Acosta Martínez, A. I., & Álvarez Aledo, C. (2005). Integración comercial de la industria agroalimentaria mexicana en el marco del TLCAN. Estudios fronterizos, 6(11), 75-106.

Almejo Hernández R, Téllez Vázquez Y, López Ramírez J. Concepto y dimensiones de la marginación. (2013) Índice Absoluto de Marginación 2000-2010. In: Población CNd, editor. Primera edición ed. México, D. F.:Secretaría de Gobernación;. p.11-3.

Altschuler, A., Somkin, C. P., & Adler, N. E. (2004). Local services and amenities, neighborhood social capital, and health. Social science & medicine, 59(6), 1219-1229.

An, R., & Sturm, R. (2012). School and residential neighborhood food environment and diet among California youth. *American journal of preventive medicine*, *42*(2), 129-135.

Apparicio, P., Cloutier, M. S., & Shearmur, R. (2007). The case of Montreal's missing food deserts: evaluation of accessibility to food supermarkets. International journal of health geographics, 6(1), 4.

Asfaw, A. (2008). Does supermarket purchase affect the dietary practices of households? Some empirical evidence from Guatemala. Development Policy Review, 26(2), 227-243.

Astorga, P., Berges A. R., & Fitzgerald, V. (2005). Endogenous growth and exogenous shocks in Latin America during the twentieth century (No. _057). University of Oxford, Department of Economics.

Baker, P., & Friel, S. (2014). Processed foods and the nutrition transition: evidence from A sia. Obesity reviews, 15(7), 564-577.

Baker, P., & Friel, S. (2016). Food systems transformations, ultra-processed food markets and the nutrition transition in Asia. Globalization and health, 12(1), 80.

Baker, P., Friel, S., Schram, A., & Labonte, R. (2016). Trade and investment liberalization, food systems change and highly processed food consumption: a natural experiment contrasting the soft-drink markets of Peru and Bolivia. Globalization and health, 12(1), 24.

Ball, K., Timperio, A., & Crawford, D. (2009). Neighbourhood socioeconomic inequalities in food access and affordability. Health & place, 15(2), 578-585.

Banda, H., & Chacón, S. (2005). 'La crisis financiera mexicana de 1994: Una visión políitca-económica'. Foro Internacional, 45(3), p 145-165.

Banwell, C., Dixon, J., Seubsman, S. A., Pangsap, S., Kelly, M., & Sleigh, A. (2013). Evolving food retail environments in Thailand and implications for the health and nutrition transition. *Public health nutrition*, *16*(4), 608-615.

Barling, D. (2007). Food supply chain governance and public health externalities: upstream policy interventions and the UK state. Journal of Agricultural and Environmental Ethics, 20(3), 285-300.

Barlow, P., McKee, M., Basu, S., & Stuckler, D. (2017). Impact of the North American Free Trade Agreement on high-fructose corn syrup supply in Canada: a natural experiment using synthetic control methods. CMAJ, 189(26), E881-E887.

Barquera, S., Hernández-Barrera, L., Rothenberg, S. J., & Cifuentes, E. (2018). The obesogenic environment around elementary schools: food and beverage marketing to children in two Mexican cities. BMC Public Health, 18(1), 461.

Barrera, L. H., Rothenberg, S. J., Barquera, S., & Cifuentes, E. (2016). The toxic food environment around elementary schools and childhood obesity in Mexican cities. American journal of preventive medicine, 51(2), 264-270

Basu, S., Yoffe, P., Hills, N., & Lustig, R. H. (2013). The relationship of sugar to population-level diabetes prevalence: an econometric analysis of repeated cross-sectional data. PloS one, 8(2), e57873.

Bauman, Z. (1998).Work, Consumerism and the New Poor. Buckingham: Open University Press.

Beaulac, J., Kristjansson, E., & Cummins, S. (2009). Peer reviewed: A systematic review of food deserts, 1966-2007. Preventing chronic disease, 6(3).

Bérenger, V., & Verdier-Chouchane, A. (2007). Multidimensional measures of well-being: Standard of living and quality of life across countries. World Development, 35(7), 1259-1276.

Bergeron, J., Paquette, S., & Poullaouec-Gonidec, P. (2014). Uncovering landscape values and micro-geographies of meanings with the go-along method. Landscape and Urban Planning, 122, 108-121.

Bialous, S. A., & Yach, D. (2001). Whose standard is it, anyway? How the tobacco industry determines the International Organization for Standardization (ISO) standards for tobacco and tobacco products. Tobacco control, 10(2), 96-104.

Black, C., Moon, G., & Baird, J. (2014). Dietary inequalities: what is the evidence for the effect of the neighbourhood food environment?. Health & place, 27, 229-242

Black, C., Ntani, G., Kenny, R., Tinati, T., Jarman, M., Lawrence, W., ... & Baird, J. (2012). Variety and quality of healthy foods differ according to neighbourhood deprivation. Health & place, 18(6), 1292-1299.

Black, J. L., & Macinko, J. (2008). Neighborhoods and obesity. Nutrition reviews, 66(1), 2-20

Blouin, C., Chopra, M., & van der Hoeven, R. (2009). Trade and social determinants of health. The lancet, 373(9662), 502-507.

Bolling, C., & Gehlhar, M. (2005). Global food manufacturing reorients to meet new demands. New Directions in Global Food Markets, 5.

Bridle-Fitzpatrick, S. (2015). Food deserts or food swamps?: A mixed-methods study of local food environments in a Mexican city. Social Science & Medicine, 142, 202-213.

Bridle-Fitzpatrick, S. (2016). Tortillas, pizza, and broccoli: social class and dietary aspirations in a Mexican city. Food, Culture & Society, 19(1), 93-128.

Cairns, G., Angus, K., Hastings, G., & Caraher, M. (2013). Systematic reviews of the evidence on the nature, extent and effects of food marketing to children. A retrospective summary. Appetite, 62, 209-215.

Canella, D. S., Levy, R. B., Martins, A. P. B., Claro, R. M., Moubarac, J. C., Baraldi, L. G., ... & Monteiro, C. A. (2014). Ultra-processed food products and obesity in Brazilian households (2008–2009). *PloS one*, *9*(3), e92752.

Carpenter, V. (2005). The echo of Tlatelolco in contemporary Mexican protest poetry. Bulletin of Latin American Research, 24(4), 496-512.

Carpiano, R. M. (2009). Come take a walk with me: The "Go-Along" interview as a novel method for studying the implications of place for health and well-being. Health & place, 15(1), 263-272.

Carpiano, R. M., & Daley, D. M. (2006). A guide and glossary on postpositivist theory building for population health. Journal of Epidemiology & Community Health, 60(7), 564-570.

Casagrande, S. S., Whitt-Glover, M. C., Lancaster, K. J., Odoms-Young, A. M., & Gary, T. L. (2009). Built environment and health behaviors among African Americans: a systematic review. American journal of preventive medicine, 36(2), 174-181.

Caspi, C. E., Sorensen, G., Subramanian, S. V., & Kawachi, I. (2012). The local food environment and diet: a systematic review. Health & place, 18(5), 1172-1187.

Cattell, V., Dines, N., Gesler, W., & Curtis, S. (2008). Mingling, observing, and lingering: Everyday public spaces and their implications for well-being and social relations. Health & place, 14(3), 544-561

Charreire, H., Casey, R., Salze, P., Simon, C., Chaix, B., Banos & Oppert, J. M. (2010). Measuring the food environment using geographical information systems: a methodological review. Public health nutrition, 13(11), 1773-1785.

Chavez, M. (2002). The transformation of Mexican retailing with NAFTA.Development Policy Review, 20(4), 503-513.

Chen, R., & Tunstall-Pedoe, H. (2005). Socioeconomic deprivation and waist circumference in men and women: The Scottish MONICA surveys 1989–1995. *European journal of epidemiology*, *20*(2), 141-147.

Chopra, M., Galbraith, S., & Darnton-Hill, I. (2002). A global response to a global problem: the epidemic of overnutrition. Bulletin of the world Health Organization, 80, 952-958.

Clark, S. E., Hawkes, C., Murphy, S. M., Hansen-Kuhn, K. A., & Wallinga, D. (2012). Exporting obesity: US farm and trade policy and the transformation of the Mexican consumer food environment. International journal of occupational and environmental health, 18(1), 53-64.

Cohen, L., Manion, L., & Morrison, K., 6th Edition (2007) Research Methods in Education, London: Routledge Falmer

Colchero, M. A., Rivera-Dommarco, J., Popkin, B. M., & Ng, S. W. (2017). In Mexico, evidence of sustained consumer response two years after implementing a sugar-sweetened beverage tax. *Health Affairs*, *36*(3), 564-571.

Cortés, F., & Vargas, D. (2011). Marginación en México a través del tiempo: a propósito del índice de Conapo. Estudios sociológicos, 361-387.

Costa-Font, J., & Mas, N. (2016). 'Globesity'? The effects of globalization on obesity and caloric intake. Food Policy, 64, 121-132.

Crossa, V. (2016). Reading for difference on the street: De-homogenising street vending in Mexico City. *Urban Studies*, *53*(2), 287-301.

Cruz, G., Manuel, A., & Schwentesius, R. (2003). Impacto del TLCAN en el sector agroalimentario: evaluación a diez años. *El campo aguanta más*, 51-71.

Cummins, S. (2007). Neighbourhood food environment and diet: time for improved conceptual models?. Preventive medicine, 44(3), 196.

Cummins, S., & Macintyre, S. (2006). Food environments and obesity—neighbourhood or nation?. International journal of epidemiology, 35(1), 100-104.

Cummins, S., Findlay, A., Petticrew, M., & Sparks, L. (2005). Healthy cities: The impact of food retail-led regeneration on food access, choice and retail structure. Built Environment, 31(4), 288-301.

Curtis, S. (2004). Health and inequality: Geographical perspectives. Sage.

Dalmeny, K., & Preston, J. (2004). Should food advertising for children be banned?. Early Years Educator, 5(10), 6-7.

De Vogli, R., Kouvonen, A., & Gimeno, D. (2014). The influence of market deregulation on fast food consumption and body mass index: a cross-national time series analysis. Bulletin of the World Health Organization, 92(2), 99-107A.

Development Initiatives (2018). 2018 Global Nutrition Report: Shining a light to spur action on nutrition. Bristol, UK: Development Initiatives.

Diaz- Enciso, F. (2002). Las mil y una historias del Pedregal de Santo Domingo. Dirección General de Culturas Populares e Indígenas del Consejo Nacional para la Cultura y las Artes.

Diccionario del Español de México (DEM) http://dem.colmex.mx, El Colegio de México, A.C., [14/05/2019].

Dixon, J., & Banwell, C. (2016). Supermarketisation and rural society futures. In *Routledge International Handbook of Rural Studies* (pp. 257-269). Routledge.

Dreher, A. (2006). KOF index of globalization. Zürich: Konjunkturforschungsstelle ETH Zürich.

Dubowitz, T. et al., 2015. Diet And Perceptions Change With Supermarket Introduction In A Food Desert, But Not Because Of Supermarket Use. Health affairs (Project Hope), 34(11), pp.1858–68

Duhau, E., & Giglia, A. (2007). Nuevas centralidades y prácticas de consumo en la Ciudad de México: del microcomercio al hipermercado. EURE (Santiago), 33(98), 77-95.

Duran, A. C. (2012). Development of a Healthy Meal-Restaurant Index and a Healthy Retail Food Store Index: Obesogenic Environment Brazilian Study (ESAO) (No. 322-2016-11321

Duran, A. C., De Almeida, S. L., Maria do Rosario, D. O., & Jaime, P. C. (2016). The role of the local retail food environment in fruit, vegetable and sugar-sweetened beverage consumption in Brazil. Public health nutrition, 19(6), 1093-1102.

Duran, A. C., Roux, A. V. D., Maria do Rosario, D. O., & Jaime, P. C. (2013). Neighborhood socioeconomic characteristics and differences in the availability of healthy food stores and restaurants in Sao Paulo, Brazil. Health & place, 23, 39-47.

Dussel Peters, E. (2000). La inversión extranjera en México. CEPAL.

Ehsan, S. (2013). *Impact of foreign trade agreement (FTA) on trade patterns of goods between Pakistan and China* (Doctoral dissertation, KDI School).

Ellaway, A., Macdonald, L., Lamb, K., Thornton, L., Day, P., & Pearce, J. (2012). Do obesity-promoting food environments cluster around socially disadvantaged schools in Glasgow, Scotland?. Health & place, 18(6), 1335-1340.

Elliott, R., & Timulak, L. (2005). Descriptive and interpretive approaches to qualitative research. A handbook of research methods for clinical and health psychology, 1(7), 147-159.

Emerson, Robert M. et al. Writing Ethnographic Fieldnotes. 2nd ed. Chicago, IL: University of Chicago Press, 2011

Emmel, N., & Clark, A. (2011, January). Learning to use visual methodologies in our research: A dialogue between two researchers. In Forum Qualitative Sozialforschung/Forum: Qualitative Social Research (Vol. 12, No. 1).

Encuesta Nacional de Gastos de los Hogares (2013).
Instituto Nacional de Estadística y Geografía.-- México : INEGI, c2014.

Escalona Aguilar, M. Á. (2010). Los tianguis y mercados locales de alimentos ecológicos en México: supapel en el consumo, la producción y la conservación de la biodiversidad y cultura.

Evans, J., & Jones, P. (2011). The walking interview: Methodology, mobility and place. Applied Geography, 31(2), 849-858.

Faux, J. (2006). The global class war: how America's bipartisan elite lost our future-and what it will take to win it back. United States, John Willey and Sons

Fleischhacker, S. E., Evenson, K. R., Rodriguez, D. A., & Ammerman, A. S. (2011). A systematic review of fast food access studies. Obesity reviews, 12(5), e460-e471.

Franco, M., Roux, A. V. D., Glass, T. A., Caballero, B., & Brancati, F. L. (2008). Neighborhood characteristics and availability of healthy foods in Baltimore. American journal of preventive medicine, 35(6), 561-567.

Fraser, L. K., Edwards, K. L., Cade, J., & Clarke, G. P. (2010). The geography of fast food outlets: a review. International journal of environmental research and public health, 7(5), 2290-2308.

Friel, S., Gleeson, D., Thow, A. M., Labonte, R., Stuckler, D., Kay, A., & Snowdon, W. (2013a). A new generation of trade policy: potential risks to diet-related health from the trans pacific partnership agreement. Globalization and Health, 9(1), 1.

Friel, S., Hattersley, L., & Townsend, R. (2015). Trade policy and public health. Annual Review of Public Health, 36.

Friel, S., Hawkes, C., Sanders, D., Hattersley, L., Snowdon, W., Lobstein, T., & Thow, A. (2013b). THE INFORMAS FRAMEWORK FOR ASSESSING THE IMPACT OF TRADE AGREEMENTS ON FOOD ENVIRONMENTS AND OBESITY RISK: PO1308. Annals of Nutrition and Metabolism, 63, 892-893

Friel, S., Schram, A., & Townsend, B. (2020). The nexus between international trade, food systems, malnutrition and climate change. *Nature Food*, *1*(1), 51-58.

Frohlich, K. L., Corin, E., & Potvin, L. (2001). A theoretical proposal for the relationship between context and disease. Sociology of health & illness, 23(6), 776-797.

Galeana, L. S. (2013). Vida cotidiana en Santa Ana Tlacotenco. Cecemilhuinemiliztli in Santa Ana Tlacotenco. Tlalocan, 11.

Galobardes, B., Shaw, M., Lawlor, D. A., Lynch, J. W., & Smith, G. D. (2006). Indicators of socioeconomic position (part 1). Journal of Epidemiology & Community Health, 60(1), 7-12

Gálvez, A. (2018). Eating NAFTA: Trade, Food Policies, and the Destruction of Mexico. Univ of California Press.

Gasca- Zamora, J. (2014). Cambios en el sistema de distribución y comercialización de alimentos en las ciudades mexicanas. Revista Cidades, 11(18).

Gasca-Zamora G. (Ed.). (2017). Espacios del consumo y el comercio en la ciudad contemporánea. Universidad Nacional Autónoma de México, Instituto de Investigaciones Económicas.

Gasca-Zamora, J. (2017). Centros comerciales de la Ciudad de México: el ascenso de los negocios inmobiliarios orientados al consumo. EURE (Santiago), 43(130), 73-96.

Gasca, J., & Torres, F. (2014). El control corporativo de la distribución de alimentos en México. Problemas del desarrollo, 45(176), 133-155.

Gase, L. N., DeFosset, A. R., Smith, L. V., & Kuo, T. (2014). The association between self-reported grocery store access, fruit and vegetable intake, sugar-sweetened beverage consumption, and obesity in a racially diverse, low-income population. Frontiers in public health, 2, 229.

Gatrell, A. C. (2002). Geographies of health: an introduction Blackwell.

Gayle, V., & Lambert, P. (2018). What is Quantitative Longitudinal Data Analysis?. Bloomsbury Publishing.

Gieryn, T. F. (2000). A space for place in sociology. Annual review of sociology, 26(1), 463-496.

Gilmore, A. B., Fooks, G., Drope, J., Bialous, S. A., & Jackson, R. R. (2015). Exposing and addressing tobacco industry conduct in low-income and middle-income countries. The Lancet, 385(9972), 1029-1043.

Giskes, K., van Lenthe, F., Avendano-Pabon, M., & Brug, J. (2011). A systematic review of environmental factors and obesogenic dietary intakes among adults: are we getting closer to understanding obesogenic environments?. Obesity reviews, 12(5), e95-e106.

Glanz, K., Sallis, J. F., Saelens, B. E., & Frank, L. D. (2005). Healthy nutrition environments: concepts and measures. American journal of health promotion, 19(5), 330-333.

Glasgow, S., & Schrecker, T. (2016). The double burden of neoliberalism? Noncommunicable disease policies and the global political economy of risk. Health & place, 39, 204-211.

Gonzalez Sanchez, J., & Bolaños, I. K. (2005). Regionalización habitacional de la Ciudad de México (Vol. 3). UNAM

Goryakin, Y., Lobstein, T., James, W. P. T., & Suhrcke, M. (2015). The impact of economic, political and social globalization on overweight and obesity in the 56 low and middle income countries. Social Science & Medicine, 133, 67-76.

Gunstone, F. (Ed.). (2011). Vegetable oils in food technology: composition, properties and uses. John Wiley & Sons.

Gutiérrez-Haces, T. (2004). La inversión extranjera directa en el TLCAN. Economía unam, 1(3), 30-52

Harris, J. L., Pomeranz, J. L., Lobstein, T., & Brownell, K. D. (2009). A crisis in the marketplace: how food marketing contributes to childhood obesity and what can be done. Annual review of public health, 30, 211-225.

Harvey, D. (2007). A brief history of neoliberalism. Oxford University Press, USA.

Hastings, G., Anderson, S., Cooke, E., & Gordon, R. (2005). Alcohol marketing and young people's drinking: a review of the research. Journal of public health policy, 26(3), 296-311.

Hawkes, C. (2005). The role of foreign direct investment in the nutrition transition. Public health nutrition, 8(4), 357-365.

Hawkes, C. (2010). The influence of trade liberalization and global dietary change: The case of vegetable oils, meat and highly processed foods. Trade, food, diet and health: perspectives and policy options, 35, 59.

Hawkes, C., & World Health Organization. (2004). Nutrition labels and health claims: the global regulatory environment. World Health Organization.

Hawkes, C., Chopra, M., & Friel, S. (2009). Globalization, trade, and the nutrition transition. In Globalization and health (pp. 257-284). Routledge.

Hiernaux-Nicolás, D. (1995). Reestructuración económica y cambios territoriales en México. Un balance. 1982-1995. Revista de estudios regionales, 3, 151-176.

Hilmers, A., Hilmers, D. C., & Dave, J. (2012). Neighborhood disparities in access to healthy foods and their effects on environmental justice. American journal of public health, 102(9), 1644-1654.

Holsten, J. E. (2009). Obesity and the community food environment: a systematic review. Public health nutrition, 12(3), 397-405.

Hosler, A. S., Michaels, I. H., & Buckenmeyer, E. M. (2016). Food shopping venues, neighborhood food environment, and body mass index among Guyanese, black, and white adults in an urban community in the US. Journal of Nutrition Education and Behavior, 48(6), 361-368.

Hrisos, S., Eccles, M. P., Francis, J. J., Dickinson, H. O., Kaner, E. F., Beyer, F., & Johnston, M. (2009). Are there valid proxy measures of clinical behaviour? A systematic review. Implementation Science, 4(1), 37.

Hu, F. B. (2011). Globalization of diabetes: the role of diet, lifestyle, and genes. *Diabetes care*, *34*(6), 1249-1257.

Hu, T. W., Mao, Z., Ong, M., Tong, E., Tao, M., Jiang, H& Yurekli, A. (2006). China at the crossroads: the economics of tobacco and health. Tobacco Control, 15(suppl 1), i37-i41.

Inagami, S., Cohen, D. A., Brown, A. F., & Asch, S. M. (2009). Body mass index, neighborhood fast food and restaurant concentration, and car ownership. Journal of Urban Health, 86(5), 683-695.

INEGI. (2016). Directorio Estadistico Nacional de Unidades Económicas. de DENUE: .
[20/03/2018]

Inglis, V., Ball, K., & Crawford, D. (2008). Socioeconomic variations in women's diets: what is the role of perceptions of the local food environment?. Journal of Epidemiology & Community Health, 62(3), 191-197.

Jackson, M. C., Hastings, G., Pérez-Ferrer, C., Lock, K., & Rivera, J. A. (2009). Learning from international policies on trans fatty acids to reduce cardiovascular disease in low-and middle-income countries, using Mexico as a case study. Health policy and planning, 25(1), 39-49.

Jácome Moreno, C. A. (2009). Las construcciones de la imagen: la serie del Conjunto Urbano Nonoalco-Tlatelolco de Armando Salas Portugal. In Anales del Instituto de Investigaciones Estéticas (Vol. 31, No. 95, pp. 85-118). Universidad Nacional Autónoma de México, Instituto de Investigaciones Estéticas.

Jones, B. L., & Nagin, D. S. (2007). Advances in group-based trajectory modeling and an SAS procedure for estimating them. Sociological methods & research, 35(4), 542-571.

Jones, B. L., & Nagin, D. S. (2013). A note on a Stata plugin for estimating group-based trajectory models. Sociological Methods & Research, 42(4), 608-613.

Kawakami, N., Winkleby, M., Skog, L., Szulkin, R., & Sundquist, K. (2011). Differences in neighborhood accessibility to health-related resources: a nationwide comparison between deprived and affluent neighborhoods in Sweden. Health & place, 17(1), 132-139.

Kelly, M., Seubsman, S. A., Banwell, C., Dixon, J., & Sleigh, A. (2014). Thailand's food retail transition: supermarket and fresh market effects on diet quality and health. *British Food Journal*.

Kickbusch, I., Allen, L., & Franz, C. (2016). The commercial determinants of health. The Lancet Global Health, 4(12), e895-e896.

Kirby, S. L., Greaves, L., & Reid, C. (2006). Experience research social change: Methods beyond the mainstream. University of Toronto Press.

Kirkpatrick, S. I., Dodd, K. W., Reedy, J., & Krebs-Smith, S. M. (2012). Income and race/ethnicity are associated with adherence to food-based dietary guidance among US adults and children. *Journal of the Academy of Nutrition and Dietetics*, *112*(5), 624-635.

Kirkpatrick, S. I., Reedy, J., Butler, E. N., Dodd, K. W., Subar, A. F., Thompson, F. E., & McKinnon, R. A. (2014). Dietary assessment in food environment research: a systematic review. American journal of preventive medicine, 46(1), 94-102.

Kohler, U., & Kreuter, F. (2005). Data analysis using Stata. Stata press.

Kose, M. M. A., Towe, M. C. M., & Meredith, M. G. (2004). How has NAFTA affected the Mexican economy? Review and evidence (No. 4-59). International Monetary Fund.

Kraak, V. I., & Story, M. (2015). Influence of food companies' brand mascots and entertainment companies' cartoon media characters on children's diet and health: a systematic review and research needs. obesity reviews, 16(2), 107-126.

Kusenbach, M. (2003). Street phenomenology: The go-along as ethnographic research tool. Ethnography, 4(3), 455-485.

Labonté, R., Ruckert, A., & Schram, A. (2018). Trade, investment and the global economy: Are we entering a new era for health?. Global Social Policy, 18(1), 28-44.

Lang, T., & Heasman, M. (2004). Diet and Nutrition Policy: A clash of ideas or investment?. *Development*, *47*(2), 64-74

Lang, T., & Heasman, M. (2015). Food wars: the global battle for mouths, minds and markets. Routledge.

Laraia, B. A., Siega-Riz, A. M., Kaufman, J. S., & Jones, S. J. (2004). Proximity of supermarkets is positively associated with diet quality index for pregnancy. *Preventive medicine*, *39*(5), 869-875.

Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments: disparities in access to healthy foods in the US. American journal of preventive medicine, 36(1), 74-81.

Licona Valencia, E. (2014). Un sistema de intercambio híbrido: el mercado/ tianguis La Purísima, Tehuacán-Puebla, México. *Antípoda. Revista de Antropología y Arqueología*, (18), 137-163

Lobstein, T. (2010). Tackling childhood obesity in an era of trade liberalisation. Trade, food, diet and health: Perspectives and policy options, 195-218.

Lobstein, T., & Aikenhead, A. (2010). Food marketing to children: mapping the policy arena: T5: OS4. 1. Obesity Reviews, 11.

Lobstein, T., Landon, J., Thornton, N., & Jernigan, D. (2017). The commercial use of digital media to market al.cohol products: a narrative review. Addiction, 112, 21-27.

Long-Solís, J. (2007). A survey of street foods in Mexico City. Food and Foodways, 15(3-4), 213-236.

Lovasi, G. S., Hutson, M. A., Guerra, M., & Neckerman, K. M. (2009). Built environments and obesity in disadvantaged populations. Epidemiologic reviews, 31(1), 7-20

Lynch, J. R., Cunningham, M. R., Warme, W. J., Schaad, D. C., Wolf, F. M., & Leopold, S. S. (2007). Commercially funded and United States-based research is more likely to be published; good-quality studies with negative outcomes are not. JBJS, 89(5), 1010-1018

Maddock, J. (2004). The relationship between obesity and the prevalence of fast food restaurants: state-level analysis. American journal of health promotion, 19(2), 137-143.

Marmot, M., Allen, J., Bell, R., Bloomer, E., & Goldblatt, P. (2012). WHO European review of social determinants of health and the health divide. The lancet, 380(9846), 1011-1029.

Marrón-Ponce, J. A., Sánchez-Pimienta, T. G., da Costa Louzada, M. L., & Batis, C. (2018). Energy contribution of NOVA food groups and sociodemographic determinants of ultra-processed food consumption in the Mexican population. Public health nutrition, 21(1), 87-93.

Martens, P., Caselli, M., De Lombaerde, P., Figge, L., & Scholte, J. A. (2015). New directions in globalization indices. Globalizations, 12(2), 217-228.

Martens, P., Dreher, A., & Gaston, N. (2010). Globalisation, the global village and the civil society. Futures, 42(6), 574-582.

Martinez-Steele, E. Baraldi, L. G., da Costa Louzada, M. L., Moubarac, J. C., Mozaffarian, D., & Monteiro, C. A. (2016). Ultra-processed foods and added sugars in the US diet: evidence from a nationally representative cross-sectional study. BMJ open, 6(3), e009892.

Martinez-Steele, E. M., Popkin, B. M., Swinburn, B., & Monteiro, C. A. (2017). The share of ultra-processed foods and the overall nutritional quality of diets in the US: evidence from a nationally representative cross-sectional study. Population health metrics, 15(1), 6.

Mendez-Lopez, A., Loopstra, R., McKee, M., & Stuckler, D. (2017). Is trade liberalisation a vector for the spread of sugar-sweetened beverages? A cross-national longitudinal analysis of 44 low-and middle-income countries. Social science & medicine, 172, 21-27.

Miljkovic, D., Shaik, S., Miranda, S., Barabanov, N., & Liogier, A. (2015). Globalisation and obesity. The World Economy, 38(8), 1278-1294.

Miller, D. (1998). A theory of shopping. Cornell University Press.

Miller, D., & Harkins, C. (2010). Corporate strategy, corporate capture: food and alcohol industry lobbying and public health. Critical social policy, 30(4), 564-589.

Monteiro, C. A., Cannon, G., Levy, R., Moubarac, J. C., Jaime, P., Martins, A. P& Parra, D. (2016). NOVA. The star shines bright. World Nutrition, 7(1-3), 28-38.

Monteiro, C. A., Cannon, G., Moubarac, J. C., Levy, R. B., Louzada, M. L. C., & Jaime, P. C. (2018). The UN Decade of Nutrition, the NOVA food classification and the trouble with ultra-processing. Public health nutrition, 21(1), 5-17.

Monteiro, C. A., Levy, R. B., Claro, R. M., de Castro, I. R. R., & Cannon, G. (2010). Increasing consumption of ultra-processed foods and likely impact on human health: evidence from Brazil. Public health nutrition, 14(1), 5-13.

Moodie, R., Stuckler, D., Monteiro, C., Sheron, N., Neal, B., Thamarangsi, T., ... & Lancet NCD Action Group. (2013). Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. The lancet, 381(9867), 670-679.

Moore, L. V., & Diez Roux, A. V. (2006). Associations of neighborhood characteristics with the location and type of food stores. American journal of public health, 96(2), 325-331.

Moore, L. V., Diez Roux, A. V., Nettleton, J. A., & Jacobs Jr, D. R. (2008). Associations of the local food environment with diet quality—a comparison of assessments based on surveys and geographic information systems: the multi-ethnic study of atherosclerosis. American journal of epidemiology, 167(8), 917-924.

Morland, K., Wing, S., Roux, A. D., & Poole, C. (2002). Neighborhood characteristics associated with the location of food stores and food service places. American journal of preventive medicine, 22(1), 23-29.

Morland, Kimberly, Diez Roux, Ana V., & Wing, Steve. (2006). Supermarkets, Other Food Stores, and Obesity: The Atherosclerosis Risk in Communities Study. American Journal of Preventive Medicine, 30(4), 333-339

Morley, C. P., Cummings, K. M., Hyland, A., Giovino, G. A., & Horan, J. K. (2002). Tobacco Institute lobbying at the state and local levels of government in the 1990s. Tobacco Control, 11(suppl 1), i102-i109.

Moubarac, J. C., Martins, A. P. B., Claro, R. M., Levy, R. B., Cannon, G., & Monteiro, C. A. (2013). Consumption of ultra-processed foods and likely impact on human health. Evidence from Canada. Public health nutrition, 16(12), 2240-2248.

Moubarac, J. C., Parra, D. C., Cannon, G., & Monteiro, C. A. (2014). Food classification systems based on food processing: significance and implications for policies and actions: a systematic literature review and assessment. Current obesity reports, 3(2), 256-272.

Nagin, D. S., & Tremblay, R. E. (2005). What has been learned from group-based trajectory modeling? Examples from physical aggression and other problem behaviors. The Annals of the American Academy of Political and Social Science, 602(1), 82-117.

Naqvi, S. R., Ishtiaq, M., Kanwal, N., & Ali, M. (2013). Impact of job autonomy on organizational commitment and job satisfaction: The moderating role of organizational culture in fast food sector of Pakistan. *International Journal of Business and Management*, *8*(17), 92.

NCD Risk Factor Collaboration (NCD-RisC) Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19·2 million participants. Lancet. 2016; 387: 1377-1396

Nestle, M. (2013). Food politics: How the food industry influences nutrition and health (Vol. 3). University of California Press.

Ng, F., & Aksoy, M. A. (2008). Who are the net food importing countries?. The World Bank.

Ni Mhurchu, C., Vandevijvere, S., Waterlander, W., Thornton, L. E., Kelly, B., Cameron, A. J., ... & INFORMAS. (2013). Monitoring the availability of healthy and unhealthy foods and non–alcoholic beverages in community and consumer retail food environments globally. obesity reviews, 14, 108-119.

Organisation for Economic Co-operation and Development. (2004). *OECD handbook for internationally comparative education statistics: concepts, standards, definitions and classifications*. Paris: OECD.

Palys, T. (2008). Purposive sampling. In L. M. Given (Ed.) The Sage Encyclopedia of Qualitative Research Methods. (Vol.2). Sage: Los Angeles, pp. 697-8.

Parker-Jenkins, M. (2018). Problematising ethnography and case study: reflections on using ethnographic techniques and researcher positioning. Ethnography and Education, 13(1), 18-33

Patton, M. (1990). Qualitative evaluation and research methods (pp. 169-186). Beverly Hills, CA: Sage.

Pearce, J., & Witten, K. (2010). Geographies of obesity : Environmental understandings of the obesity epidemic (Ashgate's geographies of health series). Farnham, Surrey ; Burlington, Vt.: Ashgate.

Pearce, J., Day, P., & Witten, K. (2008). Neighbourhood provision of food and alcohol retailing and social deprivation in urban New Zealand. Urban Policy and Research, 26(2), 213-227

Pearce, J., Hiscock, R., Blakely, T., & Witten, K. (2008). The contextual effects of neighbourhood access to supermarkets and convenience stores on individual fruit and vegetable consumption. Journal of Epidemiology and Community Health,62(3), 198.

Pearce, J., Hiscock, R., Blakely, T., & Witten, K. (2009). A national study of the association between neighbourhood access to fast-food outlets and the diet and weight of local residents. Health & place, 15(1), 193-197.

Pérez-Ferrer, C., Lock, K., & Rivera, J. A. (2009). Learning from international policies on trans fatty acids to reduce cardiovascular disease in low-and middle-income countries, using Mexico as a case study. Health policy and planning, 25(1), 39-49.

Pérez-Méndez, A., Aptilon, A., Ariza, G., & Gordoa, L. (2007). Las casas del Pedregal, 1947-1968. Editorial Gustavo Gili.

Pingali, P. (2007). Westernization of Asian diets and the transformation of food systems: Implications for research and policy. *Food policy*, *32*(3), 281-298.

Pingali, P., & Khwaja, Y. (2004). *Globalisation of Indian diets and the transformation of food supply systems* (No. 854-2016-56199)

Pinho, M. G. M., Mackenbach, J. D., Charreire, H., Oppert, J. M., Bárdos, H., Glonti,& Brug, J. (2018). Exploring the relationship between perceived barriers to healthy eating and dietary behaviours in European adults. European journal of nutrition, 57(5), 1761-1770.

Pink, S. (2011). Sensory digital photography: Re-thinking 'moving'and the image. Visual Studies, 26(1), 4-13.

Popkin, B. (2002) An overview on the nutrition transition and its health implications: The Bellagio meeting. Public Health Nutrition, 5(1a), 93-103.

Popkin, B. M. (1998). The nutrition transition and its health implications in lower-income countries. Public health nutrition, 1(1), 5-21.

Popkin, B. M., & Du, S. (2003). Dynamics of the nutrition transition toward the animal foods sector in China and its implications: a worried perspective. The Journal of nutrition, 133(11), 3898S-3906S.

Popkin, B. M., & Reardon, T. (2018). Obesity and the food system transformation in Latin America. *Obesity Reviews*, *19*(8), 1028-1064.

Powell, L., Auld, M., Chaloupka, F., O'Malley, P., & Johnston, L. (2007). Associations Between Access to Food Stores and Adolescent Body Mass Index. American Journal of Preventive Medicine, 33(4), S301-S307.

Reardon, T. (2015). The hidden middle: the quiet revolution in the midstream of agrifood value chains in developing countries. *Oxford Review of Economic Policy*, *31*(1), 45-63

Reardon, T., & Berdegué, J. A. (2002). The rapid rise of supermarkets in Latin America: challenges and opportunities for development. Development policy review, 20(4), 371-388.

Reardon, T., Henson, S., & Gulati, A. (2010). Links between supermarkets and food prices, diet diversity and food safety in developing countries. Trade, food, diet and health: perspectives and policy options, 111-130.

Rendón Trejo, A., & Morales Alquicira, A. (2008). Grupos económicos en la industria de alimentos: Las estrategias de Gruma. Argumentos (México, DF), 21(57), 87-112.

Richardson, A. S., Boone-Heinonen, J., Popkin, B. M., & Gordon-Larsen, P. (2011). Neighborhood fast food restaurants and fast food consumption: a national study. *BMC public health*, *11*(1), 543.

Richardson, E. A., Hill, S. E., Mitchell, R., Pearce, J., & Shortt, N. K. (2015). Is local alcohol outlet density related to alcohol-related morbidity and mortality in Scottish cities?. Health & place, 33, 172-180

Rincon Gallardo Patiño, S., Tolentino-Mayo, L., Monterrubio, E. A. F., Harris, J. L., Vandevijvere, S., Rivera, J. A., & Barquera, S. (2016). Nutritional quality of foods and non-alcoholic beverages advertised on Mexican television according to three nutrient profile models. *BMC Public Health*, *16*(1), 1-11.

Riva, M., & Curtis, S. E. (2012). Long-term local area employment rates as predictors of individual mortality and morbidity: a prospective study in England, spanning more than two decades. J Epidemiol Community Health, 66(10), 919-926.

Rivera, J. A., Barquera, S., Campirano, F., Campos, I., Safdie, M., & Tovar, V. (2002). Epidemiological and nutritional transition in Mexico: rapid increase of non-communicable chronic diseases and obesity. Public health nutrition, 5(1a), 113-122.

Rivera, J. A., Barquera, S., Gonzalez-Cossio, T., Olaiz, G., & Sepulveda, J. (2004). Nutrition transition in Mexico and in other Latin American countries.Nutrition reviews, 62(suppl 2), S149-S157

Ruckert, A., Schram, A., Labonté, R., Friel, S., Gleeson, D., & Thow, A. M. (2017). Policy coherence, health and the sustainable development goals: a health impact assessment of the Trans-Pacific Partnership. Critical Public Health, 27(1), 86-96.

Rydin, Y., Bleahu, A., Davies, M., Dávila, J. D., Friel, S., De Grandis, & Lai, K. M. (2012). Shaping cities for health: complexity and the planning of urban environments in the 21st century. The lancet, 379(9831), 2079-2108.

Scholderer, J., & Grunert, K. G. (2005). Consumers, food and convenience: The long way from resource constraints to actual consumption patterns. Journal of Economic Psychology, 26(1), 105-128.

Schram, A., Labonte, R., Baker, P., Friel, S., Reeves, A., & Stuckler, D. (2015). The role of trade and investment liberalization in the sugar-sweetened carbonated beverages market: a natural experiment contrasting Vietnam and the Philippines. Globalization and health, 11(1), 41.

Schram, A., Ruckert, A., VanDuzer, J. A., Friel, S., Gleeson, D., Thow, A. M., ... & Labonte, R. (2018). A conceptual framework for investigating the impacts of international trade and investment agreements on noncommunicable disease risk factors. Health policy and planning, 33(1), 123-136.

Schram, A., Townsend, B., Youde, J., & Friel, S. (2019). Public health over private wealth: rebalancing public and private interests in international trade and investment agreements.

Schrecker, T., Labonté, R., & De Vogli, R. (2008). Globalisation and health: the need for a global vision. *The Lancet*, *372*(9650), 1670-1676.

Schwandt, Thomas A. The SAGE Dictionary of Qualitative Inquiry. 4th edition. Thousand Oaks, CA: SAGE, 2015

Secretaria de Desarrollo Economico (SEDECO).
https://www.sedeco.cdmx.gob.mx [16/04/2019]

Shortt, N. K., Tisch, C., Pearce, J., Mitchell, R., Richardson, E. A., Hill, S., & Collin, J. (2015). A cross-sectional analysis of the relationship between tobacco and alcohol outlet density and neighbourhood deprivation. BMC public health, 15(1), 1014.

Small, J., Melewar, T. C., Wong, H. Y., & Merrilees, B. (2007). Multiple roles for branding in international marketing. International Marketing Review.

Smith, D. M., & Cummins, S. (2009). Obese cities: how our environment shapes overweight. Geography Compass, 3(1), 518-535.

Smith, D. M., Cummins, S., Taylor, M., Dawson, J., Marshall, D., Sparks, L., & Anderson, A. S. (2010). Neighbourhood food environment and area deprivation: spatial accessibility to grocery stores selling fresh fruit and vegetables in urban and rural settings. International journal of epidemiology, 39(1), 277-284.

Smith, G. D., Hart, C., Hole, D., MacKinnon, P., Gillis, C., Watt, G.& Hawthorne, V. (1998). Education and occupational social class: which is the more important indicator of mortality risk?. *Journal of Epidemiology & Community Health*, *52*(3), 153-160.

Stern, D., Piernas, C., Barquera, S., Rivera, J. A., & Popkin, B. M. (2014). Caloric beverages were major sources of energy among children and adults in Mexico, 1999–2012. The Journal of nutrition, 144(6), 949-956.

Stuckler, D., McKee, M., Ebrahim, S., & Basu, S. (2012). Manufacturing epidemics: the role of global producers in increased consumption of unhealthy commodities including processed foods, alcohol, and tobacco. PLoS Med, 9(6), e1001235.

Sturm, R. (2008). Disparities in the food environment surrounding US middle and high schools. Public health, 122(7), 681-690.

Sturm, R., & Datar, A. (2005). Body mass index in elementary school children, metropolitan area food prices and food outlet density. Public health, 119(12), 1059-1068.

Swinburn, B. A. (2008). Obesity prevention: the role of policies, laws and regulations. Australia and New Zealand health policy, 5(1), 12.

Swinburn, B. A., Kraak, V. I., Allender, S., Atkins, V. J., Baker, P. I., Bogard, J & Ezzati, M. (2019). The global syndemic of obesity, undernutrition, and climate change: The Lancet Commission report. The Lancet, 393(10173), 791-846

Swinburn, Boyd et al. (2013). INFORMAS (International Network for Food and Obesity/non−communicable diseases Research, Monitoring and Action Support): overview and key principles. Obesity reviews, 14, 1-12.

Tarling, R. (2008). Statistical modelling for social researchers: Principles and practice. Routledge.

Thacker, S. C. (1999). NAFTA coalitions and the political viability of neoliberalism in Mexico. Journal of Inter-American Studies and World Affairs, 57-89.

Thompson, C., Cummins, S., Brown, T., & Kyle, R. (2013). Understanding interactions with the food environment: an exploration of supermarket food shopping routines in deprived neighbourhoods. Health & place, 19, 116-123.

Thornton, L. E., & Kavanagh, A. M. (2012). Association between fast food purchasing and the local food environment. Nutrition & diabetes, 2(12), e53-e53

Thow, A. M. (2009). Trade liberalisation and the nutrition transition: mapping the pathways for public health nutritionists. Public health nutrition, 12(11), 2150-2158.

Thow, A. M., & Hawkes, C. (2009). The implications of trade liberalization for diet and health: a case study from Central America. Globalization and health, 5(1), 5.

Thow, A. M., Heywood, P., Schultz, J., Quested, C., Jan, S., & Colagiuri, S. (2011). Trade and the nutrition transition: strengthening policy for health in the Pacific. *Ecology of food and nutrition*, *50*(1), 18-42.

Thow, A. M., Snowdon, W., Labonté, R., Gleeson, D., Stuckler, D., Hattersley, L.& Friel, S. (2015). Will the next generation of preferential trade and investment agreements undermine prevention of noncommunicable diseases? A prospective policy analysis of the Trans Pacific Partnership Agreement. Health Policy, 119(1), 88-96.

Timperio, Anna, Ball, Kylie, Roberts, Rebecca, Campbell, Karen, Andrianopoulos, Nick, & Crawford, David. (2008). Children's fruit and vegetable intake: Associations with the neighbourhood food environment. Preventive Medicine, 46(4), 331-335.

Torres Torres, F. (2007). Cambios en el patrón alimentario de la ciudad de México. Problemas del desarrollo, 38(151), 127-150.

Torres Torres, F., & Gasca Zamora, J. (2001). Ingreso y alimentación de la población en el México del siglo XX. Universidad Nacional Autónoma de México, Instituto de Investigaciones Económicas, Miguel Ángel Porrúa.

Townsend, B., & Schram, A. (2020). Trade and investment agreements as structural drivers for NCDs: the new public health frontier. *Australian and New Zealand Journal of Public Health*, *44*(2), 92-94.

Townsend, B., Schram, A., Baum, F., Labonté, R., & Friel, S. (2020). How does policy framing enable or constrain inclusion of social determinants of health and health equity on trade policy agendas?. *Critical Public Health*, *30*(1), 115-126.

Vargas-Meza, J., Jáuregui, A., Pacheco-Miranda, S., Contreras-Manzano, A., & Barquera, S. (2019). Front-of-pack nutritional labels: Understanding by low-and middle-income Mexican consumers. *PloS one*, *14*(11), e0225268.

Vedovato, G. M., Trude, A. C. B., Kharmats, A. Y., & Martins, P. A. (2015). Degree of food processing of household acquisition patterns in a Brazilian urban area is related to food buying preferences and perceived food environment. Appetite, 87, 296-302.

Villegas, P. (2016). Del tianguis prehispánico al tianguis colonial: Lugar de intercambio y predicación (siglo XVI). *Estudios mesoamericanos*, *1*(8), 93-101.

Walker, R. E., Keane, C. R., & Burke, J. G. (2010). Disparities and access to healthy food in the United States: A review of food deserts literature. Health & place, 16(5), 876-884.

Wang, M. C., Kim, S., Gonzalez, A. A., MacLeod, K. E., & Winkleby, M. A. (2007). Socioeconomic and food-related physical characteristics of the neighbourhood environment are associated with body mass index. Journal of Epidemiology and Community Health, 61(6), 491-498

Watts, Michael (1999) Commodities. In Introducing Human Geographies, edited by Paul Cloke et al. Oxford and New York: Oxford University Press

WHO (2003). Social determinants of health: the solid facts. World Health Organization. Regional Office for Europe.

WHO (2015) *Obesity and Overweight.* Fact Sheet N° 311 (Updated January 2015)

WHO. (2018). Copenhagen consensus of mayors–Healthier and happier cities for all: A transformative approach for safe, inclusive, sustainable and resilient societies. Copenhagen: WHO Regional Office for Europe.

Wilkinson, R. G., & Marmot, M. (Eds.). (2003). Social determinants of health: the solid facts. World Health Organization.

Williams, L. K., Thornton, L., Ball, K., & Crawford, D. (2012). Is the objective food environment associated with perceptions of the food environment?. Public health nutrition, 15(2), 291-298.

Winson, A. (2004). Bringing political economy into the debate on the obesity epidemic. Agriculture and Human Values,21(4), 299-312

Yu, B., & You, L. (2013). A typology of food security in developing countries. China Agricultural Economic Review.

Zahniser, S. (2007). NAFTA at 13: Implementation nears completion. US Department of Agriculture, Economic Research Service.

Zenk, S. N., Schulz, A. J., Hollis-Neely, T., Campbell, R. T., Holmes, N., Watkins, G. & Odoms-Young, A. (2005a). Fruit and vegetable intake in African Americans: income and store characteristics. American journal of preventive medicine, 29(1), 1-9.

Zenk, S. N., Schulz, A. J., Israel, B. A., James, S. A., Bao, S., & Wilson, M. L. (2005b). Neighborhood racial composition, neighborhood poverty, and the spatial accessibility of supermarkets in metropolitan Detroit. American journal of public health, 95(4), 660-667.

Zepeda, E., Gallagher, K., & Wise, T. A. (2009). Rethinking trade policy for development: Lessons from Mexico under NAFTA (pp. 1-22). Washington, DC: Carnegie Endowment for International Peace.

Appendix 1

FLix values by country

Country	FLix	Country	FLix
Afghanistan	3.55	Chile	7.66
Albania	5.18	China	4.75
Algeria	5.64	Colombia	6.30
Angola	7.23	Costa Rica	8.06
Antigua and Barbuda	8.52	Cote d'Ivoire	3.31
Argentina	6.67	Croatia	7.28
Armenia	5.33	Cyprus	8.47
Australia	7.71	Czech Republic	7.82
Austria	8.08	Democratic Republic of the Congo	6.33
Azerbaijan	6.39	Denmark	8.61
Bahamas	7.68	Djibouti	5.90
Bangladesh	4.25	Dominica	7.72
Barbados	6.66	Dominican Republic	7.38
Belarus	6.38	Ecuador	6.79
Belize	6.49	Egypt	4.78
Benin	4.01	El Salvador	6.28
Bolivia	6.48	Estonia	7.76
Botswana	6.48	Fiji	7.64
Brazil	6.65	Finland	7.47
Brunei Darussalam	6.60	France	7.55
Bulgaria	6.41	Gabon	6.69
Burkina Faso	3.00	Gambia	6.20
Cabo Verde	7.05	Georgia	5.49
Cambodia	5.04	Germany	7.95
Cameroon	3.74	Ghana	4.32
Canada	8.54	Greece	6.30
Central African Republic	2.64	Grenada	7.80

Country	FLix	Country	FLix
Guatemala	6.52	**Malawi**	3.83
Guinea	4.45	**Malaysia**	6.86
Guinea Bissau	4.87	**Mali**	2.72
Guyana	6.44	**Mauritania**	6.46
Haiti	5.39	**Mauritius**	7.71
Honduras	5.96	**Mexico**	7.06
Hungary	6.91	**Mongolia**	6.35
Iceland	8.78	**Morocco**	5.98
India	2.89	**Mozambique**	4.72
Indonesia	4.58	**Namibia**	5.25
Iran (Islamic Republic of)	4.50	**Nepal**	3.12
Iraq	4.96	**Netherlands**	9.05
Ireland	8.80	**New Zealand**	8.45
Israel	8.88	**Nicaragua**	7.09
Italy	7.49	**Niger**	2.74
Jamaica	7.82	**Nigeria**	2.53
Japan	6.06	**Norway**	9.14
Jordan	7.19	**Pakistan**	3.30
Kazakhstan	5.84	**Panama**	7.90
Kenya	2.30	**Paraguay**	7.06
Korea, Republic of	7.26	**Peru**	6.89
Kuwait	7.08	**Philippines**	4.88
Kyrgyzstan	5.30	**Poland**	7.06
Lao	4.18	**Portugal**	7.87
Latvia	7.24	**Republic of Moldova**	4.41
Lebanon	8.03	**Romania**	5.94
Liberia	5.46	**Russia**	6.04
Lithuania	7.20	**Rwanda**	3.17
Madagascar	4.29	**Saudi Arabia**	5.84

Country	FLix	Country	FLix
Senegal	5.88	**Tunisia**	6.65
Sierra Leone	4.06	**Turkey**	5.32
Slovakia	7.51	**Turkmenistan**	6.11
Slovenia	7.91	**Uganda**	4.49
South Africa	6.05	**Ukraine**	4.34
Spain	7.80	**United Arab Emirates**	8.33
Sri Lanka	3.30	**United Kingdom**	8.38
St Kitts and Nevis	8.41	**United Republic of Tanzania**	3.94
St Vincent and the Grenadines	7.71	**United States**	8.81
Sudan	3.28	**Uruguay**	7.36
Swaziland	5.66	**Uzbekistan**	3.77
Sweden	8.79	**Vanatu**	5.89
Switzerland	8.16	**Venezuela**	7.32
Tajikistan	5.16	**Viet Nam**	4.17
Thailand	5.79	**Zambia**	5.09
Togo	4.12	**Zimbabwe**	4.52
Trinidad and Tobago	8.29		

Appendix 2

Interview transcription samples

B- refers to the interviewer (Barbara)

The interviewees are marked as their initial

Jardines del Pedregal

Name: Ana Bertha

Occupation: Economist

Place: Mega Comercial Mexicana San Jeronimo

Date: 14/02/2018

(Nos vemos en la entrada)

A: Buenos días

B: Buenos días

A: Pues mira pues yo soy bastante tradicional y trato de comprar lo más natural posible y a veces no le entro a la onda orgánica y eso. Porque muchos te toman el pelo y es muy caro. Pero trato de comprar natural y ahora sí que hacer las cosas yo. Entonces aquí normalmente lo que compro. Vengo los miércoles no porque sea más barato, particularmente, sino porque están las cosas frescas

B: ¿Los otros días no?

Lo que pasa es como tienen la promoción de miércoles de plaza, es el día que les surten. Entonces está fresco y puedes escoger variedad y calidad. Porque si por ejemplo vienes un lunes ya encuentras la verdura toda marchita o menos surtido. Entonces aquí compro básicamente lo que son perecederos, así como fruta y verdura. La carne que venden aquí también es de buena calidad, entonces también. Algunas cosas aquí las compro.

No me gusta venir, entonces cada vez que vengo compro lo más que se puedo

B: ¿Entonces cada cuánto vienes?

A: como cada tres semanas

B: ¿Cuántos son en tu casa?

A: Pues mira de familia somos tres. Pero tengo una muchacha de planta y su hijo, entonces ellos serían dos. Entonces para fines prácticos somos cinco. Pero a esta señora le gusta comer cosas (hace una cara un poco de desacuerdo). Entonces ahí están sus ya sabes

fritangas y eso. Entonces muchas veces ella se compra su comida. Gorditas y ese tipo de cosas. Ya sabes

B: ¿Y ustedes comen eso?

A: no, nosotros no

B: ¿Ella se encarga de preparar la comida?

A: Si, pero pues te digo ella… Por ejemplo, yo siempre busco cosas con poca grasa y eso. Y ella se queja de que siempre llevo pechugas de pollo. Que ella quiere unas alas o algo más. Que tengan los gordos del pollo. Yo soy más con una onda saludable. Entonces yo no compro nada de fritangas, comida chatarra y eso.

Yo solo la compro cuando hay visitas. Ósea para consumo normal no

B: ¿Y solo vienes a este súper o vas a otro lugar?

A: Pues mira si voy a Sam's o a Costco. Pero ahí compro por ejemplo el detergente uy cosas que vienen en envases grandes que son más económico. Por ejemplo, compro por conveniencia frijoles de lata que salen más económicos que si los compras sueltos o los frascos de cátsup y esas cosas que te cuesta más el envase que el contenido. Entonces te digo si voy a Sam's y a Costco, pero a comprar más cosas de abarrotes y eso

B: Claro

[me pregunta por su hija y como la conozco]

A: Yo ahora sí que voy agarrando lo que voy viendo

B: ¿Tienes una lista?

A: No, pero sé lo que se consume. Por ejemplo, yo sé que solo tenía dos zanahorias viejitas. Entonces de lo que voy viendo, voy cogiendo

B. Vas al mercado o al tianguis?

A: Mira no me gusta. Al mercado a veces voy porque hay cosas que en súper nunca he encontrado bueno, por ejemplo, la papaya. También los quesos del súper son horribles. Como que son muy comerciales y tienen mucha grasa. Por ejemplo, mi hijo que es fan de las quesadillas los pones y como que sueltan mucha grasa y quedan así todos aguados. Entonces voy a comprar por ejemplo quesos y papaya o casa que en el súper siempre están verdes

Me encargo la muchacha papel de baño

A. Dejo el carrito aquí

Tengo también una amiga que a ella le gusta ir a la central e abastos y a veces la acompaño y ahí tienen todo muy freso y barato. Ella compra muchas cosas como semillas. Las venden muy sueltas y de muy buen precio. Por ejemplo, ella hace ensaladas con piñones que aquí te sale a 5000 pesos el kilo y ahí te sale a 7000

B: ¿Entonces dónde compras el queso?

En el mercado. O a veces o en los puestitos que venden productos de Oaxaca. El único que compro en el súper es el queso panela porque ese no lo pueden adulterar.

A: Te digo en los mercados o en los del toldo, en la central de abastos. En donde lo veo bueno pues. Ósea, pero queso caperucita y eso para nada

B: ¿Y dónde compras las tortillas para las quesadillas?

A: Esas sí las compro aquí. A veces me las compra el jardinero, me las trae de dónde vive porque son de esas de tortillería. Pero aquí no hay tortillerías y aquí están razonablemente buenas

También compro cosas que no estén exageradamente caras entonces voy variando. Hay ve ces que las manzanas y las peras están muy caras

B: Tienes un presupuesto

A: mmm pues mira, lo que hago es que compro por pieza más que por presupuesto. Te digo por ejemplo ya sé que compro unas 15 o 20 manzanas, peras y bueno pues, aunque suban los precios lo tengo que comprar. Mira la semana pasada estaban en 55 y ahora están en 71

A: Normalmente pago con tarjeta de crédito. Entonces es hasta cierto punto peligrosos. Porque con la tarjeta te puedes exceder

Mira fíjate lo que voy viendo que esta bueno, es lo que voy cogiendo

(me pregunta sobre mis estudios de caso)

[Me enseña los mangos]

A: Estos mira fuimos a un crucero el año pasado y siempre estaba buenísimos. Y siempre que los compraba aquí me salían desabridos duros. Lo que vi es que la cascara necesita estar más amarilla y eso significa que están más maduros

B: ¿Toman agua fresca o de fruta?

A: No, solo agua simple. Yo soy muy poco aficionada al azúcar. La verdad es que dulces no. Refrescos cuando llego a tomar los diluyo con agua. Aun los light. Jugos igual

B: ¿Solo se toma agua simple?

A: Si, agua natural

B: ¿Compran refrescos?

A: Si, pero cuando hay visitas principalmente. Mi esposo ósea sí. Si lo ve se lo toma. Si ve dulces se los come, cotanas, chocolates y así. Y al y a mi hijo les gusta también mucho el agua mineral.

Y el agua mineral se pueden tomar casi casi las botellas con popote

B: ¿Usan aceite o mantequilla?

A: Más bien aceite de oliva y un poco de mantequilla

B: ¿Para qué o usan?

A: Este, bueno pues para cocinar. La mantequilla mas bien para darle sabor a las cosas. Pero más bien uso el aceite de oliva

Ernesto no le gustan los lácteos más que el queso y en quesadillas

Mi otro hijo ese eran los limones. Ahorita no compro porque tengo un árbol de limones en la casa y ahorita están dando. Entonces todavía no acabo con ellos

Pero a Ernesto los lácteos tipo leche crema y eso no. Entonces el toma leche de almendra y esa se la compro en el Sam's por caja

Yo para mi compro la leche ultra-pasteurizada porque no se echa a perder

B: ¿Dónde las compras?

A: Aquí. Porque en Sam's y Costco no tienen la marca que me gusta e porque es una leche muy muy baja en grasa. Porque ahora si se supone que me i esposo necesita una dieta baja en colesterol

B: ¿Él tiene el colesterol alto?

A: Sí, también por eso no consumo cosas con grasa. Él come mucho jamón de pavo y eso. Normalmente desayuna una rebanada de pan con crema de cacahuate y según el tamaño dos o tres rebanadas de jamón de pavo.

Los fines de semana le gusta un huevo, para variarle. A Ernesto no le gusta el huevo. A mí no me encanta yo puedo comer otra cosa

Yo creo que es de familia porque a mi papa también le chocaba el huevo

Y Alejandro se come dos huevos diarios invariablemente

B: ¿Sí?

A: Sí. Yo me desayuno una quesadilla o un huevo o lo que haya en el momento

Y siempre ahora sí que procuro que la comida sea de los tres grupos; algo de carne, verdura y carbohidratos: arroz, pasta o papas.

Las papas las compro en el Sam's porque aquí son muy duras

B: ¿Sí?

Si, las de aquí

B: ¿Y cada cuánto vas a Sam's?

A: Pues como una vez al mes. Ahí compro las papas. Venden unos paquetes de tortillas de harina y ahí se quedan para emergencias o para variarle

B: ¿Y el pan de cuál compran?

A: Mira pan compramos este pan de caja pero también compramos pan artesanal (ese lo compro aquí), que son como hogazas y sale muy sabroso. No es barato. Pero también compro pan de centeno, pero también de caja. No me acuerdo de la marca, pero viene con bolsas de celofán. Entonces porque con bolsa de pastico se ahonga. Y así viene empacado

Aquí también venden una rosca de pan de dulce. Ahorita no voy a comprar porque ayer fui a Xochimilco por unas cosas con una miga que vive allá. Y nos encontramos en la calle uno que vendía pan en una bicicleta. Ese señor vende muy buen pan, entonces compre pan de dulce

B: ¿Generalmente compras un postre?

A-Mira postres no comemos. Pero te digo esto más como para la merienda o si se antoja algo dulce. Pero así comprar chocolates. Lo que si compro son esas barritas de granola, pero que no sean dulces. Me gustan las de bimbo porque esas es prácticamente la pura galleta y no traen relleno

A Ernesto le gustan mucho unas de quaker

B: ¿Toman café?

A: Si, tomamos lo que le llaman el lechero. Tenemos de las cafeteras de exprés. ¿Las conoces?

B: Si, las italianas

A: Entonces compro el café en grano. Yo me tomo uno al día porque mas no Y mi esposo se toma ese y en su trabajo pone su maquinita esa de sus capsulitas esas. Por practico. Y el si se toma varias y Ernesto también. Y es baseado porque a veces toma muchísimo y a vece s no toma.

Ellos también toman te ya sea de bolsita o esos que hacen las infusiones. Ernesto colecciona te y tienen de todos los sabores. Ana le regalo una tetera que es el recipiente y tiene como una especie de depósito que le pones el té abajo y lo exprimes como tipo prensa francesa.

También le regalo una cosa para hacerse su taza individual de café. Porque ella está en contra de las cosas desechables porque generan mucha basura. Pero a mi esposo para no complicarse la vida tiene su maquinita de nespresso

Déjame ver lo que hay

Mira apio

B: ¿Cómo lo preparan?

A: Pues en la casa con sal y limón y en las sopas como condimento

B: ¿Y a parte de este súper vas a Superama o a city market?

A: Pues a Superama voy si me falta alguna cosa o el fin de semana. Por ejemplo Ernesto le gusta hacer chilaquiles. Entonces compra los totopos y una salsa la costeña y unos caldillos y se hace sus chilaquiles. Y ya tiene su fórmula. Salen bastante bien

De repente un domingo que quieren desayunar chilaquiles y no hay totopos pues corren al Superama. Porque venir aquí es la estacionada, caminas más y eso. Entonces más que nada es por tiempo. A mí los domingos me gusta preparar algo para comer en la casa. Los restaurantes a mí no me encantan.

B: ¿No?

A: Solamente que sea algo muy bueno o que valga mucho la pena por ejemplo algo muy complicado como una paella

Por ejemplo, aquí si veo algo bueno de carne pues lo compro

B-L¿a carne la compras aquí?

A- Pues te digo, a veces aquí o el Sam's. Antes compraba en el Costco, pero ya no voy porque estoy enojada con los gringos. Antes compraba los paquetes de jamón de pavo, muy prácticos porque venían envasados al vacío y los podía congelar. Entonces iba y compraba varios. Pero ahora estoy comprándolo en el súper, pero es una lata. Porque que pruebe este y así.

A-Algo que también compramos es salchichas de pavo. Son paquetes de dos kilos para cenar un hot dog y así, entonces también de repente

(me muestra los panes artesanales

A-Mira este sale bueno, tiene arándanos y así

A-Todos son muy ricos la verdad ¿Cual me llevo?

A-Todos se me antojan

A-Me llevo nada más uno porque luego si me llevo varios se me hacen duros. No es que comamos tanto pan.

A-También compramos bolillos a veces en vez de pan de dulce

A-Compro también yogurt. De hecho ahorita voy a llevar. Compro natural sin azúcar. Entonces cosas que llevan crema, les pongo mitad crema, mitad yogurt

A-Compro crema disque light

A-También compro yogurt que no tengan pintura. Los que tienen también como granitos. Porque los otros te digo es pura pintura

Y esos como yo los como, los diluyo. Porque como no me gustan las cosas dulces, si los diluyes con leche se hacen más ligeros o incluso si los diluyes con el mismo natural también quedan bien

También lo que compro son galletas para que Ernesto se lleve comida de la casa. El si es de golosinas. Entonces compro canelitas o galletitas que vienen en paquetitos

Entonces le pongo su comida y su postre

Mi esposo el sí lo que ve se come. Tengo luego las nueces y agarra un puñado. El papas bueno, lo que sea

[escoge un yogurt]

Estoy buscando un queso crema porque voy a hacer una comida el sábado y lo necesito para una crema. La carne la voy a ir comprar al Costco porque son unos paquetes grandes y ahí si ya me conviene

B: Claro

A: Y voy a llevar leche. Esta me gusta porque es la equivalente a la skin y es la única que en realidad esta descremada. Llevo una suelta para que vean el código

B: ¿Para qué no te abran la caja?

A- Si

A: La otra cosa que consumimos son cereales. Normalmente los compro en el Sam's porque sale mejor. Normalmente compro los que tienen poca azúcar. Normalmente compro Cheerrios o Corn Flakes o Bran Flakes y estas no los tienen ni en Sam's y Costco

Luego de barritas a Ernesto le gustan de estas

B: ¿También se los lleva de postre?

A: Se lleva una de esas como snack y el otro es su postre

Y a mí me gustan de estas porque no son rellenas. También en el Sam's compro galletas de fibra porque son chiquitas y no son dulces.

Mira a veces también a veces llevo del pan Europeo y a mi esposo le gustan los arenques el arenque. A veces los hay en Sam's o en Costco aquí en el súper casi no. Le pones su jocoque y aceite de oliva

El aceite de oliva también lo compro en el Sam's porque es más grande. Las aceitunas y las sopas de pasta también porque venden las cajas

Mostaza también. Mayonesa casi no consumimos porque nada más me la como yo. Y yo realmente pues no. Para un sándwich de vez en cuando

Tengo mostazas de todos los sabores. Tengo de la normal, de la dijon, verde de la de especies. Hay una que viene entera, porque a Ernesto le gusta l mostaza de todo tipo

B: ¿Dónde la compras?

A: Pues esa, en el Sam's vencen unos grandes de mostaza y de la normal de esa del bote. Y venden unos frascos así grandes de la dijon y de la entera. De una marca… Pero tienen de muchos tipos. Hay unas chiquitas en el súper, de la verde, de la de ajo y así. Esas las compro en el Superama porque no la venden aquí

El Superama no me encanta, sobre todo el de por aquí, está muy feo el estacionamiento, lleno de baches y nunca hay lugar. Luego lo remodelaron e hicieron los pasillos en triangulo y luego no pasas y hay una columna. Entonces te digo nada mas como para una emergencia

B: Claro

A: ¿Y que más te puedo decir?

B: ¿Comes botana ahora que van a tener comida?

A: Sí, pero la voy a hacer con varias personas porque vamos a celebrar varios cumpleaños. Entonces cada quién va a llevar algo y yo voy a preparar la carne y otro va a llevar la botana, la otra la pasta, y otra la ensalada y el pastel. Entonces ya estamos cubiertos

Lo que si me falta es comprar bebidas y así, pero como son muy pesados pues solo pongo agua mineral

Y botanas y eso a veces los fines de semana una bolsita de cacahuates y así, pero no así de todos los días mi coca y mis papas no. Digo mi esposo si se lo podría comer sin ningún problema

[llegamos a la caja y paga con tarjeta]

B: ¿Y vienes tu sola?

A: Sí, antes tenía yo chofer, pero ya tiene muchos años que ya no. Y realmente como somos pocos.

Mi esposo con la cosa del trabajo, solamente en fin de semana, que vamos a hacer alguna cosa que andamos juntos, me acompaña. Pero normalmente vengo yo sola

B: ¿Trabajas?

Antes si trabajaba yo, pero tiene un ano que ya no

[trae sus propias bolsas y le da instrucciones al empacador]

{termina entrevista en el estacionamiento}

Name: Alejandra

Occupation: Entrepreneur

Place: Supermama Patio Revolución

Date: 23/02/2018

A -Perdón ehh.. La tardanza

(me d aun beso)

B-No te preocupes

A- ¿Qué hago o qué?

B-Te acompaño mientras haces el super y te voy haciendo algunas preguntas

A-Las cosas que no compro aquí, por ejemplo, las compro en city market

B-¿Y qué compras en City market?

A-Pues las cosas orgánicas, el pollo orgánico y así. Entonces el pollo, el huevo y el queso

B-¿Qué tipo de queso?

A-Pues el queso panela y el queso orgánico, que pues aquí no hay

B-Y por qué vienes a este súper

A-Porque me queda cerca, porque me queda de pasada

(me explica que es tía de Pía)

B-La muchacha me hace la lista

Tenemos un pizarrón y todo el mundo va anotando lo que hace falta. Y copie todo

Bueno pues vamos para acá

B-¿Cuántos hijos tienes?

A-Tengo tres: un hombre de 20, Camille de 18 y Nicole de 17

A-Normalmente todo lo que es fruta y verdura lo compro en el mercado

B-¿Vas tú al mercado?

A-Lo pido por teléfono, ya tenemos un marchante, entonces lo piso por teléfono, súper moderno

A-Tengo mi marchante, le pido toda la lista y me lo lleva a mi casa. Lleva los guacales y ahí le pago

A-Y le hablo por teléfono a su teléfono y ya.

B-¿Tú le hablas?

A-Si si, Bueno normalmente viene los martes. Porque ya hemos descubierto que los lunes no, porque cuando viene el fin de semana la fruta y verdura del lunes es cómo las sobras. Entonces pedimos los martes. Como todo el mundo va al mercado el fin de semana, pues se llevan lo mejor.

B-¿Y cada cuanto te piden?

A-Todas las semanas, todos los martes

B-Entonces ya se conocen súper bien. Y como empezaste tu sistema de llamarle?

A-Pues como iba, yo iba a comprarle ahí al mercado. Entonces un día haz de cuenta no tenían manzana o yo que sé. Y le dije : “como de pero como que no tienen aguacate!!! Entonces me dijo: Si quiere hábleme y se lo llevo a su casa.

A-Y dije ay wow. ¡Qué lujo! Y le dije órale. Y entonces le pregunte: ¿Oiga y si le pido? Y me dijo, usted lo que quiera se lo traigo

B-Muy bien. ¿Y qué diferencias notas entre la verdura del mercado y la del súper?

A-¡Ay no! Es otra cosa. La del súper esta súper congelada. Te dura anos . Haz de cuenta las manzanas te pueden durar 5 meses. Yo siento que son transgénicas y no sé qué. La fruta yo creo a veces está congelada y como que se descongela. Bueno, no sé. No me gusta

B-¿Y de precio?

B-No, a veces es más caro el mercado. A veces. Pero ahí se van más o menos.

A-Hoy me pidieron unos chiles. [Mira su lista]

B- ¿Y tienes un presupuesto para comida a la semana?

A-No, así de tanto no. Pero más o menos si se cómo cuanto gasto

B-¿Y cuánto es eso? Ósea al mes haz de cuenta en comida… como entre 12 mil pesos. Con todo. Incluye cosas de limpieza, papel de baño, todo todo

A-Son mil pesos de mercado todos los martes. Tomamos jugo de toronja de naranja natural. Siempre hay fruta, aguas de fruta

A- ¿Eso es mucho?

B-No se

A-Compramos chipotles de esta marca lucero porque es la que más nos gustó. En comparación con esta esta está en escabeche y esta en abobo. Bueno esta le gusta a mis hijos

A-Mis hijos todavía viven conmigo. Ya vez que aquí en México es diferente

A-Mi hijo ya está en segundo semestre

A-Este compro esta pasta de dientes, es la que le gusta a mis hijas y la comparten entre las dos. Una que blanquean los dientes

A-La carne la compro, Si hay aquí yo compro la carne molida

A-¿Me acampanas a city market después? ¿Quieres?

B-Si, esta bien

A-Yo compro esta carne porque es medio “grass feed” Pero no sé si sea cierto. Pero es la que compro

A-Y compro esta arrachera. Es del norte y tiene menos este… dañinos y no sé qué tantas cosas le echan. Yo no creas que soy tan orgánica y no sé qué tantas cosas. Pero en huevo y en pollo si

A-Y en City Market venden huevo y pollo orgánico

(Toma una salsa)

A-Mi hijo se la pone a sus cosas que se compra en la tarde

B-¿Y quién cocina en tu casa?

A-Mayra

Empieza a decir su lista en voz alta

A-Tortillas de harina, comida para Tita. Tenemos un gato, un perro, un conejo

[estaciona su carrito]

A-Tita tiene 14 años y come una que es de pollo. Pero no hay. Pero tendré que llevar de esta supongo. Pues ni modo…

B-¿Y cocinan con aceite?

A-Con aceite de coco.

B-¿Y por qué?

A-Pues este supuestamente es menos dañino. Entonces también tengo del otro aceite normal. Es que a mi hijo le gustan

A=Te de manzanilla

B-Y el azúcar a que se la echan?

A-Al agua de sabor de todos los días. Y mi hijo toma café y le echa azúcar

B-¿Y de qué hacen aguas?

A-Pues de limón, de pina, de sandía, de naranja. De fruta no? De papaya

B-Claro

B Y toman refresco?

A-No, en mi casa no hay refrescos (lo dice muy orgullosa)

A-Agua de coco si hay a veces. Pero refrescos no. A menos de que haga una cena y compro pues no sé, para mezclar no. Pero así de tener no

[compra productos de limpieza}

A-Por ejemplo, city market es mucho más caro. Haz de cuenta un producto un producto de comida esta cinco o siete pesos más caro

A-Entonces procuro comprarlo aquí

A-Pero el huevo como aquí no hay orgánico, pues no

B-¿En el mercado?

A-No hay orgánico. ¿Eso está canon no?

A-Pero bueno creo que de aquí ya

A-¿Me preguntas por qué compro el agua de coco?

A-Pues porque sabe rico no mas

B-¿La toman todos?

A-Si, a veces cuando quieres algo rico, que no sea agua sola, pues si

B-¿Más o menos cuándo vienes al súper?

A-Una vez a la semana

B-Y traes la lista

A-Si, traigo la lista con todo lo que traigo que se necesita. Pero a veces si cojo algo que. Normalmente si traigo lista, pero se me

B-Y van a restaurantes?

A-Este… Pues sí, a veces los domingos. O pedimos los domingos, tacos o pizza o torta y así. A mí no me gusta, pero a mis hijos si

{paga aprox 1000 pesos]

B-Trabajas?

A-Si, pero en mi casa

[le dice a la señora como arreglar las bolsas]

[La acompaño a su coche y nos subimos]

A-En el Green corner compro el aceite y también las salsas. Pero fruta y verdura en el mercado

B- ¿Toman yogurt?

A-Si, ese Fage

A-A veces hay uno que sacaron otra marca con fresa y no sé qué. En unos botecitos de vidrio. Y bueno aquí en México eso es rarísimo. Entonces mi hoja empezó de que quiero los botecitos de vidrio para mi clase de pintura y entonces me encantaron porque tienen en su tapita. Y como le acabaron gustando, pues entonces compramos de ese

A-Leche, compramos dos tipos de leche. Ahorita te la enseño. Una es leche lala sin lactosa porque a Nicole le cae muy pesado. Entonces compramos esa porque me dijeron que esta mejor porque no es deslactosada sino sin lactosa. Y compramos la otra leche de tetra-pack es orgánica. Y esa es para los demás

B- ¿Toman café?

A-Café compro uno en … ¿Cómo se llama el árabe de San Jeronimo?

B-El Emir

A-Si, ese compro una mezcla de ellos y hacemos la prensa francesa

A-También tengo cápsulas de Nesspreso pero solo la uso cuando van amigos y así, no del diario

B-Toman jugos envasados?

A-A veces, a mi hija le gustan dos. Uno que es Jumex d mango que tiene muchísima azúcar y otro de mango que es dique de soya

B- Ades

A-Si, ades de mango

B-Y cuando vas al conjunto comercial de San Jerónimo . vas a la mega comercial?

A-No, la verdad no

B- ¿Por que?

A-Este… pus no. No, ni la conozco ni nada. Osea no me gusta ir al super. Entonces trato de ir lo mas rápido que puedo. Y ahí es inmenso y no sé donde están las cosas. Y si, tal vez puedo encontrar algo mas barato y pue son, no nunca voy

B- ¿Vas a Costco o a Sams?

A-No, no voy. Voy como una o dos veces al ano. Antes sí iba más. Pero acabo gastando, comprando cosas que ni necesito, este era un relajo.

B-¿ Y tus hijos comen cereal o tú?

A-Si, comemos. Emil come uno que es todo de mezclas. Y también compro el special k de Kellogs. Compro una bolitas de orangután pero no me acuerdo la marca y granola tampoco me acuerdo la marca

B-¿Entonces compras basado en los gustos de cada uno?

A-Si

B-¿Sin importar el precio?

A-Si, pero trato no. Pero como ya es lo que estamos viendo. Si a veces por ejemplo jean me pide unas cervezas porque son importadas y a veces si le digo que está muy cara

A-De alcohol, pues en mi casa si hay cervezas los fines de semana, Si van mis amigos, compro. Vino, me gusta mucho el vino tinto. Pero ese lo compro en la castellana o en la europea

B-¿Compras otra cosa ahí?

A-Solo el vino, también compro un jocoque muy bueno

B-¿Comen pan?

A-Casi no, tengo pan. Pero es más que nada por si alguien quiere llevarse un lunch. Pero casi no comemos pan. A menos el fin de semana les compro una baguette. También ahí por mi casa venden pan de dulce muy bueno y a veces lo compramos

A-Pero eso sí, tortillas si comemos muchas

B-¿Y esas dónde las compran?

B- Ahí en el mercado.

A-La tortilla comemos mucha tortilla, en tacos, en enmoladas, chilaquiles, enfrijoladas o en la mañana huevo estrellado con saliste

B-Cuantas compran a la semana?

A-Pues casi cada dos días Mayra va a la tortillería

A-¿Es mucho?

B-No se

A-Si, los desayunos. Uno desayuna a las 6:30 otro 6:14 y Nicole 7:00/. No comemos juntos ósea cada quien cuando pueda

A-Las comidas, depende los horarios, pero nos esperamos. Pero tratar de que es el evento donde comemos todos juntos

A-Quieres venir?

B-No gracias, pero te lo agradezco

A-Es que la comida es que estas con la familia. Platicas como estas. Problemas que traigas. Lo que sea

B-Comen frijoles o arroz?

A-Si, esos los compramos a veces en el mercado o en súper. Marca San lázaro

(llegamos a City market)

A-Si tu llegas a ver la fruta y la verdura es super linda. Es mucho más cara. Aquí hay verdura que no hay ni en el mercado

B- ¿Alguna vez la has comprado aquí?

A-Solo si es una receta muy especial si, si no pues no

A-Aquí compro huevo. Y ahí otro que se llama aires del campo, pero ya no

A-Este descubrí que no es barato, pero… [lo toma]

B-¿Comen postres?

A-Casi no. Hay gelatinas. Siempre hay gelatina en la casa. Hay cosas enchiladas. Luego en la tarde Nicole quiere palomitas que las come viendo series o pelis

A-Hay palomitas y papas. Que compran ahí a la vuelta al OXXO

A-Te quiero enseñar el yogurt que conocí. Es este. Mira porque es que vidrio. Se llama flor de alfalfa

A-Este queso panela por ejemplo no hay en Superama.

B-¿Usan harina?

A-A veces hacemos chiles capeados y compramos harina tres estrellas. También hacemos a veces hotcakes

B-¿Y le ponen algo?

A-Pues miel normal, los hago a veces con avena o así

A-Mira este es el pollo. Viene congelado

[Me enseña el pollo orgánico]

Pide pechuga de pavo

Hola me da 400 de pechuga de pavo Bernina

Delgadita

A-En huevo revuelto, en quesadilla o en un sándwich y así

Le ofrecen otro tipo de jamón

También la compra

Compran galletas

A-Si, galletas María. Si, siempre hay galletas María

B-Y cuando las comen?

A-Pues a cualquier hora, Sobre todas las mujeres. Mi hijo no come nada nada, por eso está bien flaco

B-¿Comen nueces?

A-Si, pero ahorita tengo.

B-¿Dónde las compras?

A-Esas aquí, pero son caras, Sino hay un expendio en Coyoacán y ahí las compro

A mi hija le gusta mucho cocinar y luego hace panquecitos de all-bran y le echa nuez

B-¿Comen algún otro embutido?

A-Si, salchichas, salchichas de pavo y de las otras, las normales. Pero ahorita hay.

A-¿Quieres ver el cereal?

B-Si

B-¿Comen pasta?

A-Si, ya ves la salsa

A-También comemos barritas y Nicole se las lleva a las escuelas. Pero ahorita no hay. Una son estas y otras unas de fresa

A-A la leche que te dije compro esta la normal y la descremada. Y la está sin lactosa que es muy diferente a que sea deslactosada. Te digo que un químico me lo explico, pero no me acuerdo

A-Ay no encuentro el cereal, pero uno es el special k normal y bueno el otro.

B-¿Comen papitas?

A-Si, a veces. También las palomitas esas de microondas esas si. Y papitas compran mis hijos

B-¿Alguna otra cosa de botana?

A-Si, seguro ellos van al Oxxo y compran no se que

A-Ellos reciben un dinerito al mes y de ahí pagan su gasolina, sus salidas, su zapatos no sé.. pero también de ahí si van y si quieren algún antojito ahí se lo compran

B-¿Compran enlatados?

A-No, así no. Pero procuramos ir al mercado

B-¿Comen pescado?

A-Sí, pero congelado. Pon tu el viernes es día de sobras porque no sabes si van a llegar o llevan amigos. Y ese día saco todo y es buffet

(Se acerca a la caja y paga)

(nos despedimos)

Tlatelolco

Name:Guadalupe

Occupation: Physics teacher

Place: Sam's y Superama Polanco

Date: 03/02/2018

G-Como el sábado ando por acá y hago la otra compra del súper, entonces el domingo casi siempre, a veces mi esposo va entre semana. Y como te digo que tenemos un negocio, entonces el compra para el negocio y aprovechamos y compra para la casa

B-¿Qué negocio tienen?

G-Un café

G-Espera, tengo que comprar aceite.

G-Entonces tenemos un café y él es que regularmente hace las compras para el café.

B-¿Y dónde las hace?

G-mmm.. las hacemos dependiendo de lo que sea. Porque casi todo compramos en Sam's o en Costo Y vendemos sándwiches de jamón serrano u otro tipo de cosas… ahh roast beef. Entonces el roast beef a él le gusta comprarlo en un mercado que está en el centro. Así que él luego va allá. Te digo sobre todo lo que es lechuga compramos mucho porque hacen lo que es sándwiches, ensaladas y jitomate, ese si se compra directamente en el mercado

B-En cual mercado?

G-En el mercado de Beethoven. Nosotros vamos muy seguido a ese mercado. A veces vamos hasta tres veces por semana

G-Espera. que más necesito

G-Ah si yogurt.

B-Porque van a ese mercado en especial?

G-Porque es el que nos queda más cerca, en realidad. Antes hacíamos compras en la central de abastos pero el problema es que como es de mucho, se te echa a perder y es peor

B-¿Cuantos viven en tu casa?

G-En realidad, somos dos. Ahora mi hija está de visita ahora, pero ella vive en China

Busca su yogurt

B- ¿Y en este supermercado que compras por lo general?

G-Pues en el Superama generalmente compro el yogurt, que consumimos diarios. A veces cereal, depende del que estamos buscando. Es que en el Sam's generalmente hay muchas

cosas, pero no siempre tienen de todo. A veces vengo a este Superama o a veces al que está en Politécnico, que es el que me queda ya más cerca del trabajo. Entonces siempre me muevo cera de los lugares que están en mi camino

G-De hecho, cerca de la casa casi no compro nada. Sí, es muy difícil que haga compras para mi

G-Ahí estaba buscando una marca en específico. Es que aquí hay más marcas.

G-A veces también compro para Samantha(su hija). Porque como ya saben que vengo aquí o a Costco (que no queda cerca). Entonces les digo: "Oigan voy a Costco qué necesitan?"

G-Normalmente ahí compramos la arena para los gatos, porque todos tenemos gatos. Y entonces si necesitan se las compro o el alimento. Este pero casi no hago compras en lugares cercanos a la casa

B-¿En dónde trabajas?

G-En el Poli, allá en Zacatenco. Yo soy físico matemática y ahí trabajo

B-Y te vas manejando?

G-Si, entonces muchas e las actividades son ahí cerca. Porque ya me queda de paso. Por ejemplo, pues el gimnasio o la tintorería. Ya entonces ya me llevo la ropa y todo.

B-¿Y porque prefieres Superama?

G-De Superama me gusta que tiene mucha variedad. Entonces, aunque cerca de mi casa está el Mega de Comercial mexicana, pero no tienen todas las cosas. Por ejemplo, este champú no lo consigo allá. Entonces como que se me hace más fácil que mejor paso a Superama y encuentro todo lo que quiero comprar y ya

B-Y tienes un presupuesto fijo?

G-Generalmente nada más lo que hago es comprar lo que voy necesitando

G-Aquí hay algo que me gusta mucho es que tienen comida como esas sopas instantáneas japonesas. Entonces me gusta mucho comprar eso y también ahora sacaron una de estas porque tienen fideo. Y es que me las llevo a mi oficina. Porque si por algo me agarran las carreras y no pude comer, nada más preparo mi sopa y ya

G-Y es que como yo soy vegetariana, las Maruchan siempre traen de camarón o así. Y la otra es puro fideo y esta rica. Y aquí hay unas que son, te digo, japonesas. Es que son importadas

Nos ofrecen un té orgánico

G-A mira acá están

B-¿Y desde hace cuánto eres vegetariana?

G-Como 20 años, si ya tiene rato.

Mira estas son (me enseña las sopas)

B-Los demás son vegetarianos en tu familia?

G-No, pero ya nos acostumbramos. Yo pues no cocino carne. Entonces sí mis hijas quieren carne (bueno cuando todavía vivían conmigo), ellas la llevan o me avisan y ya la cocinan. Mi esposo el si a veces se compra que su pollo rostizado o bistecs, pero él se lo cocina solito. Ósea yo hago algo vegetariano para todo mundo, ya si alguien quiere otra cosa, pes ya se preparan

G-Creo que ya es todo lo que necesitamos. Casi siempre la compra más grande la hacemos en Sam's o en Costco. Por ejemplo, a mí en mi trabajo me dan vales entonces con eso compro muchas cosas. Hago digamos dos compras grandes en el ano; una es e a fin de año o a principios de año y la otra es para el otro semestre. Y luego ya voy comprando lo que se va acabando

B-¿Y de las compras cotidianas que compran?

G-Compramos leche, pero ahora solo compramos leche de coco y pues compramos una caja en Costco y ya lo que se va usando

G-Y pan si, ese lo compra mi esposo. Y ese lo compra por la casa. Hay una panadería de la esperanza y ese lo compra. Y bueno… a veces i compramos a la Mega, pero solo si se necesitan cosas urgentes para la cafetería

B-¿Qué pan comen?

G-Pues pan de dulce regularmente, también usamos así pan de caja, pero ese lo compramos generalmente en Costco. Siempre merendamos pan de dulce. A veces para la comida usamos bolillos, pero solo en el fin de semana. A veces comemos con pan, a veces con tortilla. Las tortillas sí las compramos cerca de la casa.

B-Cuantas tortillas compran?

G-Pues la última vez, compramos un kilo y todavía nos queda la mitad. Ósea cuando mucho un kilo por semana. Y ahorita como mi hija está en la casa pues e consume más. Pero puede ser menos.

G-Yogurt ese si diario para el desayuno. A menos que salgamos muy temprano. Siempre desayunamos fruta con yogurt, con granola y miel

B-¿Y la miel donde la compran?

G-Esa es variable, a veces cuando se nos acaba y no hay mas donde pues compramos ya en Sam's o en Costco que tenemos mucho. Pero cuando salimos y vemos que hay rica pues compramos de esa miel

B-¿Y por ejemplo qué toman?

G-Nada más agua. Tomamos agua del botellón grande y a veces jugo, pero ese lo hacemos en casa. Entonces compramos naranjas o zanahorias

B-Y donde las compran?

G-En el mercado, toda la fruta la compramos ahí. A veces por la casa se pone un puestito. Es raro que compremos ahí, pero a veces si sucede si es que se nos acaba algo. Pero regularmente, si todo lo compramos en el mercado de Beethoven

B-¿Y cómo se van a ese mercado?

G-Siempre vamos en el auto. Y porque tampoco está así como qué tan cerca. Entonces llevar las bolsas hasta la casa si es medio complicado. Entonces siempre vamos en el auto. Cada ocho días ponen un tianguis frente a la casa, pero pocas veces vamos al tianguis. Mi esposo a veces si va, pero sobre todo si en la cafetería se acaba algo y necesitamos comprar algo de emergencia, entonces sí vamos a los negocios que están cerca.

G-Te digo cuando no hay algo, que se acabe algo de pronto entonces compramos cerca

B-¿Viven ahí desde hace mucho?

G-Pues yo vivo ahí desde que tengo cinco años. Mis papas si compran en el Mega que está en Tlatelolco. Eso yo estaba justo comentando con Laura, con mi otra hija. Y es que como en Tlatelolco ahora hay muchos adultos mayores que tienen la tarjeta esta que da el gobierno, entonces yo creo que Mega vive de esas tarjetas. Porque incluso no importa si el precio es bueno o no, como a ellos les queda cerca y les reciben la tarjeta pues hay mucha gente que compra ahí. Sobre todo, los adultos mayores.

G-Porque Laura (su hija) me decía que quería comprar algunas cosas, y yo le decía:" no mejor en vez de Mega mejor cómpralo en Wal-Mart o en Superama". Y me pregunto si en Superama no era más caro. Y yo le dije pues yo he encontrado cosas que son mucho más caras en el Mega que en el Superama

B-¿Cómo que cosas?

G-Mi mama la otra vez me regalo unos tamales de esos que vienen en una bolsita, de la costeña, que porque estaban muy buenos. Pero me dije:" Fíjate que ya los están dando a once pesos y antes los daban a diez"

G-Y entonces yo vi que los vendían también en Superama, y en Superama los daban a diez. Y hasta le hable. Si entonces a mí eso me parece, ósea el Mega no es tan barato que digamos, pero como tiene los clientes cautivos.

Paga 380 pesos en la caja

G-El queso también es otra cosa. El queso a veces lo compramos en el súper, pero hay personas que te venden cosas en el trabajo. Y hay un par de personas que venden queso. Y generalmente les compro a ellos

B-¿Y qué le compras?

G-Tengo una amiga que es de Puebla. Su hermano y su cuñada venden quesos y entonces hacen panela y Oaxaca. Ese es a mi parecer les queda mejor el Oaxaca y eso les compro.

G-Pero pues les compras una pieza cada quince días. Ese solo en casa, no para la cafetería. Pero como es por temporadas, pero solo cuando les sobra leche de las vacas. Sino, pues si lo compramos en el súper.

B-¿Y de cual compran en el súper?

G-Pues Oaxaca. A mí me gusta el de la esmeralda. Y como en Superama siempre hay. Pero por eso me gusta. Y si a veces las cosas son un poquito más caras, pero la ventaja es que encuentras todo. Y además yo si soy muy especial para las marcas. Y es que me reclaman en mi familia que, si no es de una marca, pues no lo compro. Pero yo digo que, si tienes algo ya

probado, entonces ya sabes y sino: “Chin… ¿a ver cómo te sale?”. Entonces por eso me gusta venir acá, porque hay de todo

B-Pero no hay Superama cerca de Tlatelolco. ¿Cierto?

G-No, no hay. Es que también Superama como que es mas de ciertas zonas y entonces en alguna ocasión compre un boleto para una carrera y tenía que recoger un boleto en un Superama que estaba en el Pedregal. Y entonces anduve literal buscando el Superama y eso me sorprendía, casi cada dos cuadras había un Superama. Y en Tlatelolco no hay ninguno cerca. Entonces s lo que hago es ahí por el poli. Entonces a veces en lo que salgo a comer pues paso ahí cerca. También es practico porque hay muchos negocios en Lindavista y este… o a veces cuando voy de camino o de regreso. Lo bueno de Superama es que cierran, muy tarde y como salgo a las diez de trabajar. Entonces salgo a las diez y todavía alcanzo el Superama abierto. A veces así s si necesitamos algo pues ya paso, incluso a veces hasta por pan y compro cualquier cosa. Creo que abren 24 horas o no sé si cierran a media noche. Yo siempre lo encuentro abierto. Es una de las ventajas.

G-También abrieron una plaza nueva sobre Excélsior y ahí hay un Chedrahui, pero no me convenció completamente

B-¿Porque?

G-Pues no sé, ósea yo lo vi medio disperso. Y es que hay muchas coas y esta tan grande que tiene s que andar buscando y este pues al final había cosas que no conseguí. Ósea no había las marcas que me gustan

B-Si entonces por eso se me hace mas cómoda, el Superama porque es pequeño, aunque el del poli es medio incomodo por lo pequeño

(Nos subimos al coche)

(llegamos a Costco)

G-Igual si hay algo que se acaba antes en la cafetería, sobre todo leche pues vengo otra vez

B-¿Qué tipo de café compran?

G-Ese lo compramos en un lugar específico, es un café muy rico, pero no comercial. Hay una persona que también tiene una cafetería en Lindavista, que antes estaba en el poli y lo conocí. Pero el café que tiene es muy bueno porque él mismo lo tuesta y lo compra en una hacienda de Chiapas. Entonces él solito lo tuesta y lo distribuye. Es muy raro que no tenga, si no tiene mi esposo s va al centro. Los cafés que venden en Costco y Sam’s no son tan buenos.

(regresamos a su coche por el celular)

G-La leche, pues es buena acá en Costco. Y si no usamos leche al pura. Pero en casa no tomamos leche de vaca

B-¿Desde hace cuánto tienen el negocio?

G-Pues según yo este año vamos a cumplir, seis años. A finales de febrero

(me explica la dinámica del café-que tienen dos empleados)

G-Me mandan la lista y sobre eso les voy comprando

(me explica la situación de su negocio)

G-Una parte del pan la hacemos nosotros. Pero luego compramos acá porque nuestro horno es eléctrico y no alcanza la temperatura

G-Algunas veces nosotros comemos de este pan. Pero como que es siempre es el mismo tipo. Entonces como que un día o dos está bien, pero ya para el tercero ya quieres un pan diferente

B-¿Y qué tipo de pan dulce compran?

G-A mí me gustan mucho los pingüinos, los que hacen en la panadería. Hay algunas cosas que aquí no hay entonces compramos en Sam's. Por ejemplo, el huevo aquí no me gusta porque lo tienen en los refrigeradores. Entonces lo compramos en Sam's.

G-Algo que aquí me gusta mucho, son unos ravioles. Esos si son preparados. Que tienen queso, esos me gustan mucho. Entonces si los compro algunos tienen espinacas. Los que compre hace poco tienen queso con trufa

B-¿Cómo los preparas?

G-Los frio con mantequilla o les pongo salsa. La salsa la preparo yo o la compro ya hecha, la esta Prego. Eso es muy práctico para el sábado o el domingo porque ando yo en la mañana en la calle y mucho tiempo de cocinar no me da y ya nada más llego y frio los "destos", hago una ensalada y ya está la comida

G-Lo malo del fin de semana es que aquí hay mucha gente

G-A mi esposo le gusta más ir entre semana en la mañana porque es más tranquilo. Y yo lo hago cuando me queda en el camino

G-A mira, aquí está el pan. Mira de este integral

G-Deja veo si hay arena para los gatos, porque la otra vez no conseguimos

G-La otra vez le quería comprar un colchón de estos a mi perro, pero no había

G-Tengo un amigo que también tiene gatos y me encarga

G-Ahorita van a abrir un Costco ya cerca de Lindavista. Pero como este no queda tan cerca solo vengo después de mi clase de japonés

G-Es que esta marca nos gusta, entonces la compramos generalmente acá

G-Este amigo mío es amigo desde la maestría y vive muy cerca, vive en la San Simón. Y me pidió que le buscara unos rollos de jamón preparados. Y digo bueno… se los voy a buscar

B-¿Comen embutidos?

G-A veces a mi esposo le gusta comer jamón o salchicha. Pero generalmente compra paquetes chiquitos. Ahí en el mercado. Ahí también compra crema o queso. Cuando no hay queso que te digo, ahí lo compra. El conoce muy bien al dueño del negocio y a veces compra incluso para la cafetería

B-¿Comen más pasta a arte de la rellena?

G-Si, esa la compro por caja, aquí o en Sam's . Pero eso es parte de la compra cada medio año. Y cuando se nos va acabando ya compramos otra caja

G-Hay que buscar la leche de coco

G-Si casi así jugos preparados no compramos

B-¿Refresco?

G-No, tampoco, casi no. Muy rara vez si nos gusta comprar esquites ahí por la casa y entonces cuando compramos esquites si compramos un refresco, pero uno para todos ya. Ósea como que no nos gusta tanto, pero nada más llama la atención el refresco. No estamos acostumbrados

(escoge leche para su negocio)

B-¿Y qué frutas consumen más?

G-Papaya y plátano, manzanas. En ese orden. Y luego ya lo llegar a estar de temporada como mango, duraznos…

B-¿Y todo eso lo compra tu esposo?

G-Si generalmente sí. Aunque la semana pasada fui yo al mercado. Él cuando tiene mucho trabajo pues no puede. También trabaja como coach, como en cosas de psicología que se llaman constelaciones familiares. Entonces alterna las clases, las obras y la cafetería. Entonces anda por todos lados

G-Pero como él tiene horarios más flexibles, él es el que va entre semana al mercado

G-Y yo en la semana voy al gimnasio. Pero a él no le gusta. Yo ya entro a trabajar en la tarde

G-El en la mañana generalmente hace las compras de la cafetería. Yo hago las compras cuando me quedan de paso, como ahorita

G-A veces también cuando voy al poli ya compro el café. Ese casi siempre me toca a mi

B-¿Compran azúcar?

G-Si, azúcar. A mí me gusta mucho el azúcar.

B-En que lo usas?

G-Por ejemplo, cuando hacemos agua. Hacemos agua de fruta para la comida. Hacemos mucho de limón o de Jamaica. Pero ahorita que tenemos guayaba pues haceos de guayaba

G-O hago atole a veces en la noche

B-¿Dónde lo compran?

G-A mí me gusta comprarla en Sam's porque venden bolsas de 10 kilos

B-Cuanto les dura?

G-Para la casa solamente, al menos tres meses.

B-¿Comen fuera?

G-Entre semana sí, comemos muy cerca del poli, casi siempre. Antes las clases que daba mi esposo le quedaban cerca de Lindavista. Pero ahora cambiaron su escuela por el Wal-Mart de plaza Tepeyac. Entonces cuando salgo del gimnasio pasamos a comer juntos. Antes lo hacíamos casi todos los días

G-Ahí por el poli hay muchas fonditas pequeñitas. Entonces por ese lado es muy prácticos. Porque la comida es buena y los precios son muy buenos también. Una comida te sale como en 50 pesos. Entonces con 100 pesos comemos los dos. A veces es hasta más costeable que cocinar en casa.

G-Ahora solo una parte de la compra es para la casa. Lo demás es para el negocio o encargos

G-Ahh tengo que comprar un regalo para el hijo de una sobrina

G-Ya se me estaba olvidando

G-Ahh Samantha me pidió un "Nescafe choice orgánico". A mí no me gusta el café soluble entonces en mi casa no hay. Pero cuando ellos van pues quieren de ese.

B-¿Comen galletas?

G-Si, a mí me gustan mucho. Pero si me compro un paquete me duran dos semanas. Me como una o dos y ya. Siempre en la tarde si estoy en mi oficina me tomo un café y me como un par de galletas, pero no me acabo un paquete completo. Pero yo muy rara vez las compro. Mi esposo compra muchas porque como da talleres y así, pues ellos hacen su café con galletas

Lee todos los disponibles

G-Ves que aquí luego hay cosas que no encuentras. A veces encuentras cosas aquí luego no. Entonces pues vamos a Sam's y luego a no los encuentras

G-Por ejemplo, había unos de esos que tomaba en vez del yakult y entonces de esos una época vendieron en Sam's y yo compraba el paquete y de pronto ya no, dejaron de venderlo. Y ya lo dejaron de vender

G-A ver vamos a ver si un juguetito ya que ya pasaron Navidad y Reyes

G-También nos gusta comprar cerveza o alcohol, pero eso es mucho más esporádico. O solamente si vamos a hacer comida por el cumpleaños de alguien entonces sí compramos una caja de cervezas. Yo creo que tomamos mucha más cerveza que refresco

B-¿Y comen cereal de caja?

G-Sí, pero nos dura mucho porque no comemos todos los días. A mi escoso le gustan los corn flakes y a mí me gustan las Zucaritas. Yo los revuelvo para que no estén tan dulces. Él también compra del integral.

B-¿Dónde lo compran?

G-Aquí o en Sam's. Siempre hay

B-¿Comen dulces?

G-No, a mí me gustan… Mi esposo compro barritas de amaranto o alegrías. Ahorita tenemos un paquete. A mí me gustan los churritos con chile y eso, pero me pasa igual que con las galletas me compro un paquetito y me dura una semana. Entonces no compramos de a muchos porque si nos duran mucho. No somos muy afectos a las golosinas. Antes compraba paquetes de kínder delice, pero se me hizo muy empalagoso y ya dejé de comprar

B-¿Cocinan con aceite?

G-Si, cocinamos con aceite de maíz, y a veces con el de oliva. El de maíz me gusta porque no tiene olor comparado con otros aceites. O también el de girasol

B-¿En que lo usan?

G-En el arroz o la sopa. Me gusta hacer sopa de pasta aguada. También en la carne. Yo cocino muchos hongos (setas o champiñones). A mí me gusta mucho hacer los guisados como si fueran carne, pero en vez de la carne les pongo las setas y entonces a veces hay que freírlos

Sigue buscando el regalo

B-¿Y papitas y frituras comen?

G-Si, papitas sí. Hay unas que nos gustan mucho que venden en Sam's. Casi siempre compramos de esas. Cuando no hay de esas mi esposo si compra una bolsita de papas. No todos los días, pero en la noche tenemos la costumbre de sentarnos a ver la tele cuando llegamos que será como a las once o diez y caso y ahí estamos unas horas viendo cualquier cosa Netflix y quien este. Ahí nos tiramos a ver la tele. Entonces a veces sacamos las papitas y las ponemos ahí en la mesa con salsa Valentina y limón y estamos comiendo papas. Y en Sam's venden, así como estas venden unas bolsas grandotas

B-¿Y tiene algo de especial esas papas?

G-Lo que a mí me gusta es que no tienen tanta sal. Y son ricas. Creo que se llama Don Juan la Marca, o algo así. Entonces cuando encontramos de esas compramos nuestra bolsota.

(termina entrevista)

Name: Enedelia

Occupation: House wife

Place: Mercado Beethoven

Date: 21/01/2018

E-Hola. Buenos días

B-Hola Buenos días. ¿Cómo esta?

E- Bien. ¿Nos vamos caminando? ¿No te Importa?

B-Si, como usted quiera. ¿A dónde vamos a ir?

E-Al Mercado de Beethoven se llama, mira es por acá

B-¿Y por qué va ahi?

E-Pues es que ya me acomode. Es como mas este económico. Porque me queda el de la Lagunilla. Pero ora si que ya namas le quedo la fama de que es barato, pero no es barato

B-¿No?

E-Las cosas caras si

B-¿Cómo que sale caro ahi?

E-La verdure, todo, casi todo. Entonces aquí hay diferentes precios a escoger verdad?

B-Claro

E-Entonces como uno aquí lleva lo del gasto, pues hay que hacer que rinda el dinero

B-¿Más o menos cuánto se gasta en comida?

E-Ahorita cómo voy a comprar varias cosas pues más de 200 por cosas que me hacen falta. Pero para la comida son 80 o 100 pesos diarios

B-¿Y cuantos comen?

E-Mi esposo y yo, y a veces le convidamos un poco a la nuera y a mi hijo que aquí vive con nosotros. Mi hijo con su esposa y su niño. A veces convidamos algo. Osea siempre compra uno algo más para que quede un poquito. Que para si el otro día o para el almuerzo, algo no?

B- Claro. ¿Pero generalmente es para usted y su esposo?

E- Si, namas para los dos

B- ¿Y va al super?

E- Sí, a veces. Si voy por decir mañana que es miércoles de plaza. No sé como ande de manzanas, porque ahi hay baratas a 19.80 me cuesta el kilo. De la manzana que esta barata compro. Compro dos kilos o mas .Y alguna cosa que me haga falta. Por ejemplo ahi compro

el detergente. Pero no, no voy muy seguido al super porque voy al Mercado porque ahi consigo las cosas más baratas. El super siempre es un poco más caro.

B- ¿Y por ejemplo todo lo de abarrotes donde lo compra?

E- Igual a veces en el Mercado. Por decir ahorita voy a comprar servilletas y papel de baño

B- ¿También lo compra ahi?

E-Si. Porque barato, barato en el super no es. He comparado precios en Comercial Mexicana y Aurrera y es mas barato Aurrera. Como no es mucho lo que compro en el super, pues no voy tan seguido

B- ¿Y el aceite?

E- En el Mercado también

Esta el Puente peatonal, pero me duelen las piernas. No se si es por el frio o porque camino mucho

[cruzamos la avenida]

E-Por donde le vea uno todo esta lleno

B-¿Solo tiene un hijo?

E-Si, nada mas

E-Ayer me quede pensando .. ahh creo que le había dicho a Barbarita el miércoles . Te había dicho el martes?

B-Pues me dijo hablame la próxima semana a principios, entonces pore so le hable el lunes para no errarle

E-¿Cuánto tiempo dispones?

B-¿Para que?

E-Para acompañarme

B- El tiempo que usted se tarde

E-No hay prisa

B-No hay prisa

E-¿Vives lejos?

B-Si, por el estadio Azteca.

E- Ahh

B- Muy cerca de CU

E- Lejos lejísimos. Yo tengo un pariente por ese rumbo

B- ¿Ahh si?

E-Ya ni se. Si es lejos

B- No esta tan cerca este Mercado de Beethoven

E- Aha

B- ¿Cuándo empezó usted a ir a ese Mercado?

E- Pues desde que deje de trabajar, este, andaba yo buscando

B- ¿Y lo conoció?

E- Ya lo conocía yo de antes. Venia los fines de semana y compraba algunas cosas

B-¿Y su esposo todavía trabaja?

E-El trae un taxi. Ni modo el hombre siempre tiene que trabajar

B-¿Y su hijo?

E- Mi hijo trabaja en Samborns, el estudio solamente el bachillerato. Ya no quiso segur estudiando. Pero le digo a la larga te va a hacer falta. Y pues a la larga le va a hacer falta No crees

B-No se

B- ¿Y ustedes toman refrescos?

E- Si, es tan sabroso, pero es tan malo. Verdad?

B- ¿Y de cual compran?

E- Pues yo a mi mi esposo no le gusta que compre . pero pues a mi si . Manzanita o Joli y o a mi hijo y a mi nuera les encanta la coca y a mi nieto también.

B- ¿Tiene un nieto?

E- Sí, va a cumplir cinco anos en marzo. Y esta en la ventana y luego cuando salgo y me grita a donde vas? Le digo a la tienda, quieres algo? Si me dice me traes una coca cola. Lo que aprenden verdad, lo que ven y le gusta la coca cola

E- ¿Y sabes por qué le gusta?

B- ¿Por que?

E- Porque si acaba de comer la coca se la toma y repite y le digo ayy chamaco ya ves. Pero procuramos que no sea tan seguido. Ademas esta caro

B- ¿Cuánto cuesta una coca?

E- Pues como somos refresqueros para que nos rinda compramos una de tres y cuesta como 27 o 28

B- ¿Y cuánto les rinde una de tres?

E-Pues si acaso un día. Pero somos cinco

B- ¿Diario compran?

E- Si acaso cada ocho días. Te digo porque es cara y no es Bueno. Mejor hago agüita de sabor

B- ¿Y usted de que prepara el agüita?

E- Pues de fruta. De guayaba, de la fruta que compre. Aha o compro Jamaica y la pongo hervir y hago agua de Jamaica

E- ¿Y tu guisas?

B- Si

E- ¿Y que guisas?

B- Pues sencillo

E- ¿Te gusta?

B- Si, si me gusta

[entramos al Mercado]

B- ¿Usted qué guisa?

E- Sí, aunque luego ya ni sé. Yo guiso pollo, este hago sopa de verdure o lenteja según o sopa de fideo o carne o no se porque luego si no comes carne no te llenas. Bueno, mi esposo digo. Este ahorita pienso hacer unas tortas de papa y sopa a ver qué. Y digo si ya no se llena a ver si compro unas dos costillas. Y le hago una costilla así asadita.

B- ¿Y regresa a comer su esposo?

E- No, ya hasta en la tarde

E- ¿Tu si vas al Mercado?

B- Bueno, al tianguis

E- Ahh mira, aunque luego ya ni es barato, ¿ya es re caro verdad?

B- No se

B- ¿Aquí qué va a comprar?

E- Voy a comprar huevo, canela, chile morita y avena

B- ¿La avena es para desayunar?

E- Si, Bueno para licuado

Vendedor. Buenos días en que le puedo servir

E- Buenos días me da tres cuartos de huevo

Vendedor-Claro que si

E- La licúo con manzana para el licuado de manzana

B- ¿Se lo toma usted?

E- Mi esposo y yo

B--¿Compra azúcar?

E--Si, pero ahorita no voy a comprar

B --¿Y a que se la hecha?

E--Al café nada mas

E--Me da cinco pesos de canela y cinco de chile morita

B--¿A cuanto esta el kilo de huevo?

E--A 28 o treinta

E (al vendedor)--Cinco pesos de canela y un cuarto de avena por favor

E--Me puedes cargar esto? Si, nada mas ten cuidado con los huevos

B--Si

E—Voy a comprar los jitomates y tomates

B--¿Que va a hacer con ellos?

E-- Pues, Voy a ver si hago la sopa o que.Y los tomates igual porque mi nuera siempre ocupa tomates y como trabaja a que hora viene al Mercado No?

B--Claro

E- Entonces compro para las dos

B--¿Y la dejan escoger?

E--See

B--¿Y cuanto jitomate se lleva?

E--Mas de medio kilo si. Pero si tiene mucho se hecha a perder y como vengo seguido al Mercado

{escoge su jitomate]

B--¿Y generalmente viene sola?

E--Si, todos se van a trabajar. ¿Con quién vendría?

B--No se con una vecina o amiga

E--No

[fondo musica de los temerarios]

B--¿Cuanto le cobraron?

E--5.50

B--¿Por todo?

E--No, nada mas por los jitomates

E—(al vendedor) Y me da limones

Vendedor--Son 22

E-Y los limones

Vendedor--25.50 por todo

E--¿Tienes un toston que me prestes?

B--¿De cuanto?

E--De a cincuenta

B-- Si

B--¿Cada cuanto viene?

E--¿Al Mercado?

B--Si

E-- Pues a veces cada tercer día o diario por si me falto algo

E—(al vendedor) ¿A cómo tiene el cuarto (champiñones)?

E-- A ver deme uno

B-- ¿Y porque aqui es mas barato?

E--Quien sabe

E- Una ramita de epazote . Y que tiene espinacas acelgas? A ver deme un cuarto

B--¿Usted come pan?

E--SI

B--¿Blanco o de dulce?

B--¿Y donde lo compra?

E--En la panadería

E—(al vendedor) Gracias

B-- ¿Cual carne come mas?

E--Pues res y Puerco

[revisa su lista]

E--Panela ya verdad, morita, jitomate., papas

E--¿Y tu desayunas?

B--Si siempre

E--Ahh que Bueno

E--Como antes iba a ayudarle a una senora a darle su desayuno y ella tiene Parkinson. Todo se le cae y su hija a las 6 y media ya estaba almorzando. su huevo , su café con leche. Ay tan temprano

Yo tomo café, pero yo almuerzo ya ya tarde

B--¿hasta que hora almuerza?

E--Como hasta las 11. Ya se mi estomago

B--Y solo toma café

E--Si, Bueno un café con pan

B--¿Y que pan come?

E--De dulce

B--¿De dulce?

E--Si en la manana si de dulce

B--¿Y donde lo compra?

E--Orita a ver si pasamos a la panadería

E—(al carnicero)Buenos días

Carnicero- Hola Buenos días seno

E--Deme tres costillas sin hueso

E--Siempre vengo aquí.

B--¿Y que compra?

E--Aqui compro el biste, las costillas, la carne de res, el chambarete para el caldito.

[la Saluda otro de los carniceros, parece reconocerla]

Carnicero-- Hola damita como esta

E-- Bien Buenos días

E--Y estas las guiso así frititas. Y como voy a hacer las tortas de papa y si no se llena mi esposo pues ahi una costilla se la guiso

E—(al carnicero)Le pone sazonador

Carnicero-- Si, claro

E-- ¿Me las aplana mas?

Carnicero--Si

B--¿Aparte de manzana come otra fruta?

E-- Pues depende a veces papaya, pues lo que este mas barato

B--Y toma su licuado con leche?

E--Si

B--¿Cual leche compra?

E--De la alpura

B--¿Y queso?

E--Pues del doble crema o del panela

B--¿Cuanto es?

Carnicero-- 85. Una bolsita o asi

E--Asi

B--¿Tortillas?

E--Ahi en la tortilleria, compro medio kilo

B--¿Y de que café toma?

E--Pues del Nescafe

B---¿Y donde lo compra?

E--Ahi en la tienda

E--¿No nos hemos tardado verdad?

B—No, ha sido rapido

E--Es que en la manan es mas rapido

E- (al vendedor) ¿A cuánto esta la guayaba?

Vendedor-- A 12

E-- ¿Me presta una bolsita?

B--¿Hace agua de guayaba?

E--Si

B--¿Y como la hace?

E--Licuada.Con agua en la licuadora

B ¿Aquí que va a comprar?

E--El papel de bano

B--¿Apoco es barato aqui?

E--No, pero no voy a ir al super por un papel. De todas formas ahi es caro. Hay que saber

B--¿Siempre ha habido supers en Tlatelolco?

E--Si, Bueno la comer. Antes había una tienda del gobierno

B--¿Toman chocolate?

E--Si

B-- ¿Con la leche?

E--Si. ahorita con la rosca todavía tengo

B--¿De cual compran?

E--Del abuelita es el mas sabroso creo

B--¿Y galletas?

E--A veces, de las Marias

{ve los precios de los aceites]

B-- ¿De que aceite usa?

E--Del cristal, es vegetal. Pero compramos para todos de a medio litro , para mi nuera y para mí. Ella también gusa

B--¿Toman jugos?

E--Si, A veces hago e naranja o a veces de los que venden esos de tetra-pack

Vámonos se tardan mucho

E—(a la vendedora) Me da un paquete de odense

Vendedora--Fijese qué de ese no tengo. De otras marcas solamente

Hay del vogue Suvel, petalo

E--Me da un petalo y un paquete de servilletas

Vendedora--¿De cual?

E--De las medianas. Nada mas

B--Por ejemplo el frijol, la lenteja y el arroz. ¿Dónde los compra?

E--Aqui

E-No me maltrates mi huevo. Aquí ya ves es caro. Pero si va uno a Tlatelolco a la verdulería un jitomate te puede costar 6 pesos y mira aquí cuantos llevo

E--Aquí me esperas o ¿quieres ver el pan?

Pues vamos. Es poco lo que compro

[entramos a la panaderia]

B--¿Y diario come un pan dulce?

E--Si

B--¿Y cual le gusta mas?

E--Pues el que sea. También le compro uno a mi nieto. Así que compro tres uno para mí, otro para I marido y otro para mi nieto. A veces cuando la situación esta difícil, si acaso un bolillo.Osea a veces esta uno bien y aveces mal

Nosotros pasamos por una racha muy difícil. Fijate que mi esposo tuvo un accidente con el coche y fue perdida total y se quedo sin auto. Y el seguro hasta que l paga. Tuvo que

trabajar un coche prestado donde le pedían cuentas. Y entonces como dicen A amarrarse la tripa

B--¿Y que hicieron?

E--Este pues ahi adaptarse. Ora si que frijoles y huevo y ya. Todos tenemos nuestras altas y bajas

B--¿Ahora están mejor?

E- Sí, ya. Es difícil , pero ya no tenemos que entregar cuentas

[Llegamos a la para de camion]

(termina entrevista)

Santa Ana Tlatelolco

Name: Sra Trinidad and her grandson Gustavo

Occupation: Housewife

Place: Market

Date:18/01/2018

T-Arriba y abajo . Fondas arriba. Entonces todo esta arriba y abajo. Carnes abajo. Tienen una entrada por acá y otra por allá pero yo entro por acá porque como no puedo bajar muchos escalones pues entro por acá

B-Bueno

T-Ahorita he estado comprando, entonces solamente voy a comprar la carne

B-¿Cuántas personas viven en su casa?

T-Somos cuatro. La mama de el, otro hijo, el y yo

T-Te voy a explicar aquí a donde me bajo al Mercado

G- Pues vamos ya sabes que ella es la que manda

B-Claro [OTORGANDOLE AUTORIDAD A SUS ABUELA]

T-Y como no son muchos escalones pues bajo por acá porque allá hay mucho escalón. Aquí hay pollerías, carnicerías, res y puerco, las tortillas

B- ¿Y usted compra la carne ahi?

T-No, a veces compro aquí pero a veces allá arriba. Pero me acomoda mas allá arriba la verdad

B-¿Por que?

T-Porque es mas fácil . Sí. Entonces esa tienda abastece a casi todo el pueblo ahi venden abarrotes de todo. Pero ahorita han de estar de vacaciones yo que se

[señalando que estaba cerrada]

B-¿Esta cerrada?

T-Si, esta cerrada si

B-Entonces ¿Dónde compra?

T-Pues ahorita tengo lo que necesito. Pero abre pues ya pronto le compro. Vende también verduras. Pa todo tiene. Pero ahorita como esta subiendo todo pues se acomoda uno

B-Y generalmente la fruta y la verdura ¿Donde la compra?

T- Pues Bueno aqui

[llegamos un local de fruta y verdure}

T (al vendedor) Hola, Buenos días

G-Bueno mas bien cuando son productos no perecederos como higiénicos y enlatados vamos a lo que son los supermercados

B-¿Y a cuál supermercado van?

G-Bueno, el mas cercano- ¿puedo decir marcas?

B-Si las que quieras

G-El Aurrera de Xochimilco, es el mas cercano porque aqui en la Delegación no hay supermercados. No hay oxxos

B-¿No hay oxxos?

G-No tampoco.Entonces cuando vamos a la despensa , que es cada dos o tres mese, vamos a ese lugar

B-¿Dos o tres meses?

G-Si

B-¿Y cómo van hasta el supermercado?

G-En taxi o en carro, depende

B-¿Y ahi qué compran?

G-Pues todos los productos que son un poco mas grandes: papel higiénico, enlatados, productos de jabones y esas cosas

B-¿Y ese viaje lo hacen cada dos meses?

G-Si

B-¿Y la verdura?

T- Siempre en este puesto

B-¿Y por qué lo prefiere?

T-Pues porque es el paso y así ya no bajo al Mercado.

B-¿Aqui hay tianguis?

G-Si, creo que los Viernes

B-¿Y ustedes van ahi?

G-Mm (diciendo no)

B-¿Por que?

G-Pues a mi abuelita le gusta mas aquí, y creo que allá le dan mas barato

B-¿Y la carne y el pollo?

T-El pollo acá (en el puesto de a lado). La carne también aquí

B- ¿Y ustedes consumen refrescos?

G-Si

B-¿Y donde lo compran?

G- En las tienditas de la esquina o aquí en el Mercado también

G Espinacas (hablándole a su abuela)

T-mandarinas

Vendedora- ¿Qué le damos?

T (a la vendedora)- dame un kilo de mandarinas

B-¿Y siempre acompañas a tu abuela?

G-Pues te cuando en cuando. Ella es muy independiente

B-¿Cuantos anos tiene

G-Va a cumplir 82

B-Super

B-¿Y aquí la dejan escojer a usted?

T-Si, ya me conocen

B-¿Y consumen pan?

G-Si, ese lo compramos en el supermercado,, y el pan dulce aca

B-¿En donde?

G-Pues hay una panadería acá, también las tortillas

B-¿Venden tortillas ya hechas?

G-Si, bueno o ella [su abuela] también hace sus tortillas

B ¿Usted también hace sus tortillas?

T-No, las compro

G-Bueno, cuando hace

B-¿Antes hacia tortillas?

T-Bueno si, hacia yo tortillas

Vendedora- ¿algo mas?

T-No, nada mas

B-¿Y tienen un presupuesto de comida al mes?

G-No, pues ahora si que lo que ella haga. Ella manda

T- (a la vendedora) Gracias

B-¿Que compro?

B-¿Y cocinan con aceite?

G-Si

B-¿Cual usan?

G- Canoli

B-¿Siempre lo han usado?

T-Mira aqui compro el pollo [llegando a la polleria} y alla la carne

Pollero- Buenos dias

T-Buenos dias {al pollero]. Me da media pechuga de a medio kilo en bistecs. Una grande grande

B-¿Y usted es la que cocina en su casa?

T-Si, desde siempre. Me gusta

B- ¿Y qué va a cocinar hoy?

T-Este… bistec a la Mexicana ehh

B- ¿Y toman leche?

G- Tomamos leche alpura

B- ¿Antes compraban leche fresca?

T-Pues antes había la leche Buena, la de vaca. Pero ahora ya no. Antes tomábamos la leche de vaca que bajaba de allá del Cerrito de San Bartolo., bajaba un señor que nos venia a entregar. Pues pero alimentaban a los animales con pasto del campo, del monte y ahora ya no le dan puro alimento que ya no

B- ¿Y donde compran la leche?

G-Pues traemos la leche del supermercado, como una caja, y si hace falta pues ya la compramos aquí en cualquier tiendita

G-¿Y siempre compran en esta pollería?

G-Pues no, le ha ido cambiando. Ella es la que sabe

B-¿Y por que ha cambiado de polleria?

T-No, pos, cuando no esta abierto aquí pues bajo al Mercado

T- Aquí es mejor. Pero pues le busca uno, a dónde se acomode uno, a donde le parezca a uno mejor. Porque hay pollo muy refrigerado y

T [al pollero]Me lo aplana

Pollero-Si

B-¿Y comen queso?

G-Si, lo compramos aquí en las tienditas. Aunque luego le tren a mi abuelita, una señora que vende leche. Le trae queso fresco, queso panela

B-¿Y por ejemplo el frijol, la lenteja y el arroz?

G-Lo traemos del supermercado

B-¿No lo compran aca?

G-No

B-¿Siempre han ido al supermercado?

G-Desde que yo me acuerdo si

B-¿Compran yogurt?

G-Lo compramos en el supermercado.Si, nos dura una semana un botecito de a litro. Compramos como tres

T-Muchas gracias [se despide del señor}

Pollero-A uste

Señoras -Buenos días

Saluda a otras señoras

T-Buenos días. Ya fueron al ejercicio

G-¿Va a comprar otra cosa mama?

T-Si, ya es todo

B-¿Siempre viene caminando?

T-Si, así hago ejercicio

B-Muy bien, la acompaño.

T-Gracias

B-¿Y tu abuela va al supermercado con ustedes?

G-Si, siempre, pues ella es la jefa

T-Si, yo tengo que firmar

[caminamos]

B-Y si no pueden ir al supermercado ¿Qué hacen?

G-Pus..vamos a las tienditas

B- ¿Y por que van al super?

G-Se supone que es mas barato. En teoría sí. Pero los precios van variando y nos tenemos que adecuar

B-¿Y cuánto se gastan en cada viaje al supermercado?

G- entre 2000 o 2500 pesos.Pero hacemos la despensa para dos o tres meses. Pore so

B-¿Y quién paga pore eso?

G-Pues ella

B-¿Consumen botanas?

G-No casi no. Muy poco

B-Muchas gracias señora Trinidad

T-Feliz ano que estamos empezando.

T-Que Dios te acompañe

B-Gracias por dejarme platicar con ella

G-Si, es muy activa. Normalmente se a a caminar y va a la iglesia..Ella tiene diabetes pero esta controlada

G-Hemos estado cambiando hábitos. Yo antes tomaba muchísimo refresco, sobre todo en la prepa y se me quito el vicio

B-¿Y por que?

G-Pues hubo un momento en que me saturo y ya no le encontré el gusto

B-¿Siguen comprando refresco?

G- En ocasiones. Pues cuando la comida lo amerita sí. Por ejemplo, no puedes comer pizza con agua. Pero normalmente cada semana. O Bueno si hay refresco en la casa a lo mucho un vaso cada dos días

B-¿Y que refresco compran?

G-Manzana , manzanita, el de pepsi o jarritos que el lo no tan dulce

B-¿Guisados que comen?

G-Pues es muy variado: albondigas, chiles rellenos, bistec a la Mexicana, pollo

Consumimos mas pollo que carne, la verdad

(Gustavo se despide y termina entrevista)

Santo Domingo

Name: Diego

Occupation: Student and climbing instructor

Place: Tianguis Santo Domingo

Date:26/02/2018

Nos quedamos de ver en la Iglesia

D-Primero quiero pasar a la tortillería

D-Oye ¿qué estas investigando?

(Le explico)

D-Pues yo la verdad soy muy feliz comprando aquí. Esta chido porque hay mucha variedad. Todo está cerca

B-¿Hace mucho que vives aquí?

D-Si, me mude aquí, bueno a Santo Domingo cuando iba en segundo semestre hace como tres años y medio

B-¿Y porque te mudaste precisamente acá?

D-Lo que pasa es que yo soy foráneo. Yo llegué a estudiar acá a CU y primero caí en una casa que está en la salida de economía. Muy cerca de CU y de filos que es a donde yo iba. Y pues estaba muy bien. Bueno, al principio estaba cotorro, pero ya después me desespere porque eran varias personas y en una casa y habían pasado cosas muy raras. Se robaban la comida y así estaba todo muy sucio. Y era muy caro para un cuartito chafa. Y bueno, Sto. Domingo era como una especie de mito, porque decían que estaba súper peligroso.

D-Pero un amigo mío me dijo que él estaba rentando un cuarto y que él ya se iba a ir y si quería checarlo para quedarme ahí. Llegue y estaba mucho más barato y más grande y ya también más libertad. Y me gusto, y decidí ya mudarme a otro departamento porque no me llevaba bien con los que vivian ahí. Y he estado rebotando aquí en Santocho desde que llegue, hace tres anos

B-¿Te gusta?

D-Si, mucho. He ido al tianguis de los miércoles que se pone en Coyamel, hay otro los jueves. Bueno depende del día

Pide 10 pesos de tortilla

B-¿Cuantas comes?

D-Pues el kilo me dura como una semana

B-¿Comes pan?

D-Si, ahorita lo voy a comprar.

B-¿De cuál compras?

D-Pues compro uno muy fresa que se llama orowheat. ¿Lo conoces?

B-Si

B-¿Y dónde los compras?

D-En la tienda, si hay en esta tienda. Durante mucho tiempo tenía que ir al Wal-Mart o al Chedrahui o a la tienda UNAM, porque no había aquí e Santocho. Hay muchas cosas que no consigues aquí en Santocho como pan o (bueno de ese), o café . El café es dificilísimo, en el tianguis a veces traen o no lo traen y cuando lo traen no me gusta

B-¿Entonces dónde lo compras?

D-Pues en el Chedrahui o en otro súper

B-¿Vas algunas veces al Chedrahui?

D-Si

B-¿Ahí que compras entonces?

D-En Chedrahui compro el café y el yogurt porque aquí el único que hay siempre tiene azúcar. Y a mí me gusta el que no tiene azúcar. Y cosas para el baño, desodorantes y así

B-¿No las venden acá?

D-Sí, pero no es tan fácil encontrar lo que yo quiero. Porque aquí llegas a la tienda y solo hay un tipo de jabón, un tipo de desodorante. Y no es lo que uso. Como que alla si busco quizá eso, como más especial

B-¿Cada cuánto vas al súper?

D-Cada vez que se me acaba el café. Ósea puedo vivir sin yogurt, pero sin café no. Entonces cada vez que se me acaba el café entonces voy y aprovecho. También lo que está muy chido es que allá puedes pagar con tarjeta, y eso es una chulada. Acá siempre es en efectivo y es un pedo con el cambio. Allá es mucho más cómodo

D-Este tianguis al que vamos es muy desafortunado. Porque cierran como una calle, pero deberían cerrarlo más. Entonces como lo ponen justo en medio del barrio, no pueden evitar que pasen los camiones. Y bueno como hay muchos puestos que se ponen de ese lado, ni modo hay que estar comprando entre camiones y coches. Y la gente esta gritando y es un caos. Pero bueno

B-¿Y más o menos tienes un presupuesto para comida?

D-Si, más o menos entre 200 y 300 a la semana top para súper. Antes eran nada más 200 pero yo siempre iba a comer a una fondita que me queda también muy cerca de mi trabajo. Y como me quedaba a medio camino siempre iba para allá.

D-Pero ahora ya tengo más tiempo libre porque ya nada más soy tesista ya terminé créditos., entonces ya cocino. Y cocinando es más barato. Y prefiero comprar todos los ingredientes, verduras y así. Me gasto entonces ahora 300

B-¿Comes carne?

B-Estoy intentando comer menos. Había intentado ser vegetariano una vez y no lo logre. Yo soy de Guadalajara y ahí la dieta se basa mucho en carne. Estaba muy chiquito cuando quise hacer eso pues mis papas me dijeron “Ayy” y no sabía cómo alimentarme, comía puro cereal y galletas. Óseas cosas que no tenían carne, pero que no eran comida de verdad. Entonces mi mama cocinaba con carne y entonces yo veía como comían menos yo, y ya lo abandoné

D-Y estando aquí sí como carne, pero quiero reducirlo, es una huella de carbono muy grande. Más que porque me guste o no me guste la carne, es por eso. Me digo” ayy contaminas mucho”

Compra pan

B-¿Qué haces con eso?

D-Hago sándwiches de jamón o de atún

D-Una vez en una competencia de escalada gane el segundo lugar y gane una cita con el nutriólogo. Y fui con el nutriólogo y me pregunto mi día a día. Y le platique (yo que trabajo en un muro, y ya que termino, me pongo a escalar). Pero como yo entro a las 2 y salía a las 10 pues en el inter no comía nada. Entonces me dijo que tenía que comer más entre comidas, como colaciones y no sé qué. Y me dijo que tengo que comer proteína y muchas verduras. Y me dijo que un sándwich de atún con espinaca y muchas verduras, porque es rápido y practico. Entonces llegando a la casa siempre me hago un sándwich de atún para reponer el desgaste muscular.

B-¿Usas aceite cuando cocinas?

D-Si, uso aceite Nutriolli

B-¿Usas mantequilla?

D-Súper poquita, la verdad es que casi no me gusta comer dulce, como hot cakes y esas ondas, no soy muy fan. Entonces la mantequilla la uso más como para hacer pasta

B-¿Entonces haces pasta?

D-Si, hago pastas, Ponle que cuando hago pasta, unas verduras y una ensalada. Y si quiero comer carne pues hago una pechuga de pollo

D-Este puesto está bien

B-¿Porque?

D-Me gusta mucho lo que tienen, son de Oaxaca

(compra queso)

B-¿Porque prefieres comprar en el tianguis?

D-En primera porque me di cuenta que este era más fácil. Ósea antes, al principio, cuando recién me mude seguían yendo al súper, porque yo vivía muy cerca del Walmart de Copilco. Pero ya que estaba acá el súper más cercano era tienda UNAM, pero tenía que ir y pasar por el metro e ir hasta la tienda, siempre estaba bien llena y regresaba y tenía que volver hasta mi casa

D-Pero luego me despertaba, no sé, el jueves por la mañana y había un tianguis afuera entonces dije ya voy a comprar aquí., pues porque está más cerca. Nada más tienes como que alinearte con los días, pero pues esta chido

B-¿Y los precios, son diferentes?

D-Algunas cosas, por ejemplo, las verduras son más baratas aquí en el tianguis, pero los lácteos son mucho más baratos en el súper.

(nos paramos en un puesto)

D-¿A cuánto el huevo?

Vendedor: A 30

D-Me da un kilo

B-¿Tomas jugos?

D-Casi no

D-Como mucha fruta, este, pero no tengo licuadora. Eso es un gran problema. Antes vivía con un chavo que tenía y era muy feliz y ahora no tengo forma de licuar nada

B-¿Generalmente que te cocinas?

D-Siempre algo de carbohidratos o pasta o arroz; algo de verduras como calabacitas o sopa de verduras y algo como con proteína. Cuando quiero comer carne. Sino son verduras a lo loco. También me hice fan de las nueces y de un mix de cosas. Entonces siempre le echo eso a la fruta

Pide queso y jamón

B-¿Tomas refrescos?

D-Intento no hacerlo

B-¿Y cómo comes las tortillas?

D-Pues con un comalito, y me las como con cualquiera cosa, con huevo, con queso. Antes comía muchas quesadillas, pero me di cuenta que no era tan bueno

B-¿Por qué?

D-Porque era... el queso Oaxaca, que es como muy grasoso. no? Entonces decidí hacerme mejor unos taquitos de panela con un pedazo de carne

B-¿Y el huevo cuando lo comes?

D-En las mañanas desayunando. El nutriólogo me dijo que la proteína era mejor después de entrenar o hace ejercicio e intente comerlo en la noche, pero si esta raro.

(se acerca a comprar nopales)

B-¿Qué verduras te gustan más?

D-Me gustan muchísimo los nopales ,soy súper fan

B-¿Y cómo los preparas?

D-Depende, ehhh me gusta mucho cenarlos. Nada más les haces así como unas rajaditas. Asa como horizontales no, verticales. Y lo pones así en un sartén con salecita y solio se hace como verde rico y ya está chido. Y a veces le pones una rebanadita de panela, una rebanada de aguacate y súper tico. Esa es mi cena de cuando no hago ejercicio. También aquí lo que me gusta muchísimo es el aguacate, es súper barato. La semana pasada aquí me encontré un kilo de aguacate a 15 pesos, así más barato que el jitomate. Y vas al súper y cuesta como 60

B-¿Y cómo notas la calidad de las verduras?

D-Eso si tienes que ponerte bien trucha. Lo que me ha pasado es que muchas veces me han chamaqueado. Muchas veces ósea esta señora, ahorita porque tenía prisa, siempre te da más de lo que le pides y le pone más y lo pone más en la báscula y ya te lo da. Y es una estrategia de ayy ups llévate más. Si hay veces que, sí le tengo que decir no yo nada más quiero esto, sino me llevo más de lo que necesito. En las verduras también pasa, que le ponen las más chidas al frente y tú dices uyy no ya se armó y a la hora de la hora también te dan unas bien gachas

D-¿Cuánto cuesta el mango?

Vendor-A 15 el kilo

(compra otro kilo de aguacate)

B-¿Haces lista?

D-Si, a veces me la aprendo. Pero ahorita como justamente estoy buscando ahorrar si la hice.

Lee su lista

D-Me faltan verduras

B-¿Qué estudiaste?

D-Letras hispánicas

(pide un kilo de calabaza)

D-Ya lo último que me faltan son champiñones

B-¿Y la pasta y el arroz donde los compras?

D-Esos bueno, es que hay puesto por acá que tiene pasta que a veces tiene unas promociones chidas y siempre compro mucho y tengo ahí. Y el arroz lo compro por kilo y ya cuando se me acaba compro más.

B-¿Tomas leche?

D-No me gusta, me cae muy pesada

B-¿Compas cosas ya preparadas tipo tamales o atole?

D- A veces cuando me despierto y no quiero cocinar, si salgo por unos tamales. Pero no muy seguido. Lo que hago es que compro unos caldillos que se llaman chonita y ese lo uso para hacer chilaquiles y compro totopos y eso. Antes me gustaba hacer la salsa, pero como ya no tengo licuadora, todo cambio

(se escucha música ranchera al fondo)

D-Listo termine

D-También me he dado cuenta que es muy mala idea comprar en los tianguis de aquí aparatos electrónico. Una vez compre una extensión aquí y a los tres días ya no funcionaba

B- ¿Compras azúcar?

D-No, solo cuando preparo agua fresca o algo así. Pero tengo un kilo y me dura un ano. Pero por lo general no soy muy dulcero. Me gusta mucho el pan, el pan de dulce

D-El pan de dulce de aquí de Santocho es una bendición

B-¿Cuál compras?

D-Me gusta mucho unas que se llaman piedras. Unas que son así que chocolate súper masudas. Y aquí hay unas que cuestan cuatro pesos la pieza y son cosas muy mal sanas, pero me gustan. Me gustan las donas, las conchas

B-Y… ¿Cada cuánto las compras?

D-Pues cada que se me antoja. No es que compre para la semana

B-¿Vives solo?

D-Vivo con roomie pero no es estudiante. Lo conocí en un grupo de estudiantes. Es un chavo que no estudio, pero es acróbata y forma parte de una compañía de circo y es muy chido muy alivianado y viaja mucho. Es el roomie ideal

B-¿A dónde va?

D-A Cuernavaca y como a la playa. Y le va chido. Él me dijo que si necesita dinero se pone en un alto y con eso saca

B-¿Cómo vas al súper?

D-Caminando por lo general. Antes iba en bici. Pero por lo general voy al banco y ya compro lo que necesito

D-Me gusta mucho ir a este tianguis como para apoyar a la economía local. Como los distribuidores son de varios lugares distintos. Y es el apoyo a la economía nacional; en vez de comprar cosas de compañías muy grandes. Eso me gusta, también eso llega muy rápido. Por ejemplo, la fruta por lo general de estados cercanos como de Michoacán o del Estado de México y entonces me gusta mucho

B-¿Las verduras te las comes crudas o cocidas?

D-Pues depende de lo que haga. Por ejemplo, el jitomate siempre me lo como crudo. Siempre le pongo jitomate o aguacate

Me invita a su casa

D-El brócoli por ejemplo lo vaporizo. Las papas por ejemplo a veces las hago al horno, las calabacitas en pedazos en el caldo

B-¿Quién te enseño a cocinar?

D-Aprendí yo solito. Llegué aquí y me di cuenta de que comer en la calle es muy caro. Me enfermaba mucho y comía en lugares bien insanos y siempre me enfermaba. En segundo semestre hay unas fotos que conservo y salgo bien desnutrido. Comía en un lugar de Copilco que había ensaladas

D-Cuando me mudé a Santocho me di cuenta que lo mejor es cocinar porque siempre es más barato y más sano y siempre estas consciente de lo que vas a comer

D-El aguacate es tan barato y resulta ser súper sano pues como muchísimo

B-¿Comes frijoles?

B-Es que los frijoles gastan mucho gas Cocinarlo es muy lento. Y como vivo con este chavo que casi no cocina, se me hace muy mala onda ponerme a cocinar como fondita. Entonces compro frijoles ya cocinadas, compro frijoles de lata. Y esos también los compro en esa tienda. En donde compramos la pasta ahí compro el atún y los frijoles

B-¿Qué carne comes?

D-Pollo, compro pechugas de pollo y las congelo y si quiero comer carne y las voy descongelando

D-Mira compro esto. ¿Quieres una?

D-Son unas palanquetas. Las compro en la merced estas cuestan 68. Son buenísimas porque son una colación excelente porque me como una de estas y una manzana y me ayudan muchísimo a mantener la energía

B-¿Qué más compras en la merced?

D-Eso es todo. Me gusta mucho ir a comer ahí. Me gusta mucho unas tlayudas oaxaqueñas que venden ahí. Entonces cuando se me acaban estas, les pregunto a mis amigos. Entonces me voy en bici y ya se las distribuyo a mis amigos. Y se las vendo con un poquito de comisión

D-Pues sí, quizá lo que más compro en el súper es lo del baño, el detergente, el café o el yogurt y ya

B-¿El aceite?

D-En la tienda

B-¿Notas alguna diferencia entre el súper y la tienda?

D-Ósea el súper tiene mucho más estándar de calidad. Aquí ya me han chamaqueado mucho aquí, mucho con la fruta, tienes que ponerte más trucha. El súper me da ciertas garantías de consumidor sí? También me ha pasado que una vez un amigo se compró un teléfono en uno de los puestos de chicherías y no funciono. Y nos quedamos en un teléfono que se convirtió en basura

D-En cambio, en el súper si sale algo mal, pues sabes que no hay pedo. Y bueno lo de pagar con tarjeta. Yo creo que es mejor el tianguis. Y la señora de los quesos vende hasta mezcal y sus productos son súper ricos

(termina entrevista)

Name: Edith

Occupation: Social Worker

Place : Soriana Eje Aztecas

Date: 12/02/2018

B-Permiso para grabar

B-¿Porque vienes aquí?

E-Lo que pasa es que ahorita en el trabajo ha habido problemas. Entonces en diciembre nos dieron vales, pero nos están dejando de pagar. Entonces pues en enero nos pagaron una quincena, pero no nos han pagado. Pero con lo único que puedo resolver mi alimentación es con los vales. Porque en otras ocasiones compro en el tianguis

B-Claro

E-Porque es más barato. Y a parte toda la fruta es más fresca y todo

B-Si

E-Pero ante esta situación y como me dieron vales pues con esto solvento los gatos. Y vengo aquí porque me queda a unos pasos del trabajo

B-¿En dónde trabajas?

E-En el centro de Salud de Guayamilpas

B-¿Viniste manejando?

E-No, caminando. Esta aquí cerquita. Entonces era lo que me queda más cerca. Entonces he estado comprado todo este tiempo en estas tiendas

B-Y si no es aquí ¿en dónde comprarías?

E-La fruta en el tianguis y también el pollo por ejemplo. Ya lo que es carne pues en el súper. Porque tiene que ser un poquito más seguro (sue refiere a la higiene)

B-¿Cuántas personas viven en tu casa?

E-Nada más yo. Estoy separada y entonces solo estoy yo

B-¿Y tiene sun presupuesto?

E-No tengo un presupuesto. Nada más compro lo que voy necesitando. Ya nada mas compro lo del día porque no compro demasiado

B-¿Y generalmente como que compras?

E-Lo que es pollo, huevo, yogurt, algunas frutas, este … de comida pues cereal, leche

B-¿De cuál cereal?

C-Del Kellogg's. Qué dicen los nutriólogos que es el mejor. Pero nada más compro para no más de tres o cuatro días

B-Y tu ¿cocinas diario?

E-En ocasiones, no siempre. Te digo ahorita por esta situación, pues trato de cocinar algo para tener para estos días

E-Porque en ocasiones cuando nos estaban pagando, haz d cuenta que había una señora que nos cocinaba ahí en el trabajado y nos llevaba la comida. Pero ahorita como están las cosas he tenido que adaptarme a comprar lo que voy necesitando

B-¿Qué diferencias notas entre la fruta y la verdura de aquí y la del tianguis?

E-Mucha. En el tianguis la siento más fresca y menos cara. Pero aquí compro pues más o menos pero esta más elevado el precio

B-¿Cuánto mas?

E-Pues no se, como no tanto hasta eso. Tal vez unos pesos mas. También hay fruta que esta en el mismo precio. Por ejemplo, el otro día que me espante que los nopales estaban carísimos. Ahora si que ahorita trato de ir economizando

B-¿Compras pan o tortillas?

E-No, las compro en la tortillería de por mi casa. El pan solo en ocasiones, pero por lo regular también lo compro ahí por mi casa, en la panadería. Pero este las tortillas nunca las he comprado aquí

B-¿Y qué tipo de pan compras?

E-De dulce y bolillos

B-¿Y el pan de dulce cuando lo comes?

E-Lo desayuno y en ocasiones también en la cena

B-¿Tomas café con tu desayuno?

E-Un vaso de leche más que nada, pero consumo muy poco café.

B-¿Qué tipo de leche compras?

E-Compro deslactosada, de la Alpura

B-Y, ¿dónde la compras?

E-Esa generalmente aquí

E-Ósea cuando compro la despensa ósea jabón papel detergente y demás entonces ya compro la leche y el yogurt.

B-¿Y consumes refrescos?

E-No

B-¿Aguas fresas?

E-De limón. También nada más yogurt y leche

E-Agua simple o compro limones para hacer agua de limón. Pero refresco si, la verdad no llevo.

B-¿Y al agua de limón le echas azúcar?

E-No,Consumo lo menos que puedo el azúcar

B-¿Y ahorita terminaste de trabajar?

E-Si, ya salgo a las tres. Y como vivo muy cerquita de aquí y aparte también a veces compro en el Aurrera (se refiere a la bodega). Es que siento que la carne del Aurrera está muy mala.

B-¿Ya la has comprado ahí?

E-Si, entonces no la vuelvo a comprar porque huele muy feo

B-¿Y frijol y arroz compras?

E-No, porque casi no cocino. ósea cocino cosas muy de…Por ejemplo, que llego a la casa me hago una pechuga o una ensaladita, y como pepino y pechugas pues ya compré. Porque el fin de semana pues no estoy en la casa. Y arroz pues ese no lo como tanto

B-¿Usas aceite?

E-Si

B-¿De cuál?

E-Este, procuro consumir el aceite de oliva y para cocinar puede ser el de ese de no me acuerdo. Se me fue el nombre

B- ¿Capullo?

E- Nutrioli no, porque lo compre y no me gusto el saborcito

B-¿Y compras mayonesa, crema, mantequilla?

E-Si, que bueno que me acordaste. Si mayonesa si, me dura mucho tiempo, pero si la compro

B-¿Catsup?

E-No

B-A parte del pan de dulce ¿Galletas papitas?

E-Ahora sí que lo que más consumo cacahuates y en ocasiones papas.

B-¿Pasta?

E-Pasta si llego a hacer, pero como te digo que solo soy yo, el paquete prácticamente me dura. Aunque a veces en la semana hago un poco de spaghetti.

B-¿Haces sopas?

E-No, definitivamente no, porque solo estoy yo. Sale mucha cantidad y no tiene caso desperdiciarlo, la verdad

B-¿Jamón o embutidos?

E-Si, jamón si, porque preparo para la mañana. Sobre todo, ahora que no puedo gastar tanto. Compro para llevarme un sándwich en la mañana. Y evitar hacer gastos y así . Porque obviamente en el trabajo venden de todo. Pero si empiezas así a gastar y haces cuentas, la verdad es que no puedes ahorrar. En cambio siento que así tanto ahorro y tengo en la casa lo necesario para comer

B-¿De que te llevas el sándwich?

E-De jamón o de atún con mayonesa

(busca la mayonesa)

B-¿Y comes queso?

ES-i si si,

B-¿De cuál?

E-Como del panela. Y ya en ocasiones del manchego que me encanta, pero no lo puedo comer tanto

E-Y lo que también llego a llevar son bisteces. Y pues es que para mí pues la mayonesa me dura mucho. Solamente los fines de semana que esta un sobrinito conmigo ya compro más cosas. Pero como viene cada quince días pues si, las papas, que jugos. Solamente

B-¿Porque?

E-Porque se le antojan a él. Pero si estoy yo sola compro lo más esencial. Y Cuando se me termina pues entonces si vuelvo a comprar. Entonces pues llevo jamón, huevo, atún carne y pollo. Casi el pescado no lo llevo, porque está congelada

B-¿Las verduras?

E-También las compro aquí, compro pepino, lechuga y chayote. También cuando hago caldo de pollo pues le pico otras cosas.Pero como no nos han pagado, pues he tenido que comprar aquí todo. Si no fuera por los vales, estaría en una crisis completa.Es que estamos por honorarios y en diciembre nos hicieron una mala jugada, Éramos honorarios y nos pasaron a mensuales y eso les dio el derecho a darnos nada más vales y no darnos aguinaldo. Y ahorita no hay para cuando

E- Y siento que, así como que gasto más. A veces ya ni ves ni el precio. Son cosas que necesitas y no tienes la posibilidad de comparar. Sino que tienes que comprar lo que necesitas

(llegamos a la caja y acaba entrevista)